FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 23—Number 46 NOVEMBER 17, 1951 1 Year $4, 2 Years $7

OPS Eyes Possible Feed Grain Ceilings

CCC Wheat Stocks Fall Below 130 Million Bushels

WASHINGTON—U.S. Department of Agriculture officials report that Commodity Credit Corp. stocks of wheat have fallen slightly below 130 million bushels. However, the government has no plans to retain any part of this supply as a so-called strategic reserve.

These stocks will be available for purchase and for such government responsibilities as export to Greece, for example, but they will not be put in the front window for promotional sales. Foreign buyers of U.S. wheat have been and probably will be advised to obtain requirements from the commercial export trade.

USDA officials note that sales of CCC wheat stocks to domestic buyers do not mean an overall reduction in the domestic supply. Only exports of wheat reduce the domestic availability, they observe.

The corn situation is somewhat different. CCC stocks of bin-stored corn probably will be held in the Midwest feeding area, and the 100-million-bushel CCC supply of corn held in commercial warehouses will be available for other demands.

GEORGE LA BUDDE MARRIED

Announcement of the marriage of George La Budde, La Budde Feed & Grain Co., Milwaukee, to Sybil Anabell Graham was made Nov. 10. The wedding occurred March 15, at Sycamore, Ill.

BUYS FEED BUSINESS

CENTRALIA, MO.—Edgar F. Warner has purchased a feed business here, formerly operated by C. H. Parmelee, and is operating it under the name of the Centralia Feed & Farm Supply.

CORN SALE FROM CCC STOCKS IS LATEST BULLISH INDICATOR

Possibility of Grain Prices Moving to Ceiling Levels Gets More Recognition; OPS Names Corn Price Advisor

JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The Office of Price Stabilization is getting ready to batten down the hatches of price control on corn and probably other feed grains as the bullish storm signals fly in official channels.

A primary bullish indicator may be found in the report of U.S. Department of Agriculture officials that Commodity Credit Corp. stocks of corn are now being reduced by sales. In three days this week more than 1 million bushels have been sold in the major Corn Belt area.

Another item of major significance is a report of a Production and Marketing Administration official that in the state of Nebraska more than 30% of the corn crop is showing more than 30% moisture.

USDA officials had anticipated a deteriorating corn crop, both in quantity and quality, but they believed that the demands on CCC stocks would be deferred until later this winter. The onset of demand for CCC corn stocks at this time is somewhat of a surprise.

The million-bushel sale of CCC corn this week was made from stocks held in warehouses. CCC officials said

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USDA Forecasts High Level of Cattle Feeding This Season

WASHINGTON — Shipments of feeder cattle into the Corn Belt during October were the largest on record.

This was pointed out this week in a U.S. Department of Agriculture report which indicated that cattle feeding this season would be at a high level.

The movement of cattle into the Corn Belt and some other important feeding areas continued large during October, reaching a near record volume by the end of October, the Bureau of Agricultural Economics said in its Nov. 1 cattle feeding situation report.

Large quantities of soft corn to be salvaged particularly in the western Corn Belt have stimulated the demand for feeder cattle, BAE said. Rather plentiful supplies of hay and roughage have favored expansion of feeding operations, it was noted, although feed grain supplies will be smaller than last season and the quality of the corn crop poorer in many important feeding sections of the western Corn Belt.

In the West, the report said, a record high number of cattle will probably be fed in both California and Arizona. Colorado cattle feeding will be on a high level with nearly as many cattle put on feed during October, 1951, as in October, 1950. For the rest of the western states, feeding operations will be the same to slightly lower.

Corn Belt Increase

Shipments of stocker and feeder cattle into the eight Corn Belt states during July to October were 17% greater than during the same months last year and the second largest on record. Total inshipments were 1,875,000 head compared with 1,602,000 head last year, and 2,004,000 two years ago which was the record high. All eight states showed increases from last year.

Among the principal feeding states, Iowa shows an increase of 9%; Illinois, 14%, and Nebraska, 40%. Elsewhere in the Corn Belt, Indiana shows a gain of 6%; Ohio, 38%; Minnesota, 23%, and Wisconsin, less than 1%. Michigan shows an increase of 131%, but the number involved is relatively small. Feeder cattle inshipments from public markets were above a year ago for South Dakota

(Continued on page 65)

ADA Marks 10th Anniversary

This issue of Feedstuffs contains a special feature—a 48-page section devoted to the dehydrated alfalfa meal industry. This Special Alfalfa Section is published on the occasion of the 10th anniversary of the American Dehydrators Assn. The editors have tried to present in this section a concise summary of the known nutritional values of alfalfa meal, a description of processing methods, some facts about the economic importance of the industry and a summary of the work of the American Dehydrators Assn. and of the research program the organization is sponsoring. Because of the basic and extensive information presented in the alfalfa section, many readers undoubtedly will want to preserve it for reference. The section is in the center of the paper. It is attached to the rest of the issue by staples at the top and bottom. If these two staples are removed, the section can be lifted out, and it will be held together by the two middle staples. The top and bottom staples can be re-crimped after the section has been removed.

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Feed Production School Attracts Foreign Students

KANSAS CITY — The Midwest Feed Manufacturers Assn. 1951 Feed Production School is attracting international attention. Requests for enrollment received in the Kansas City offices of J. D. Dean, executive vice president of the association, have come from 38 states and six foreign countries.

Capacity enrollment is practically assured, Mr. Dean said this week. Facilities for the school, which will be held at the Hotel President in Kansas City Nov. 26-28, have been enlarged, permitting a greater number to attend than a year ago.

"Although time is drawing short, additional enrollment will be permitted now if action is taken immediately," Mr. Dean said. Requests for enrollment should be mailed to the association office, 20 W. 9th St., Kansas City, Mo.

★ FEEDSTUFFS ★

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Minneapolis, Minn., U.S.A., November 17, 1951

A Lesson in Failure

THE dealer publication of the Ralston Purina Co. contains an interesting department called "Profitable Money Management," conducted by Sanford C. Wise, manager of dealer money management for the company. In the October issue, Mr. Wise reviewed some studies of business failures in the retail field made in large part by Dun & Bradstreet. The studies involved 4,429 retail businesses that failed in 1950.

The valuable lesson to be learned from the analysis is that it is extremely seldom that business failure results from causes outside of the control of management. It is the management factor that leads to success or failure of a company in almost every case.

In 85.9% of the failures analyzed, the underlying causes were lack of experience in the line handled, lack of managerial experience, unbalanced experience, and incompetence. The latter was the underlying cause of 37.3%.

These underlying causes led to the inability of the companies studied to avoid conditions which resulted in inadequate sales, heavy operating expenses, receivables difficulties, inventory difficulties, excessive fixed assets, poor location, competitive weakness or a combination of them.

Inadequate sales were a major factor in almost half of these case histories.

Neglect of a business because of bad habits, poor health, marital difficulties or similar things was a major factor in only 7% of the failures; fraud in only 3.7%; disaster in only 1.5%.

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THE comments of Mr. Wise on these figures are well worth the attention of every business man. He says:

". . . 85.9% of the business failures were due to mistakes of management because of some lack of needed experience or just plain incompetence. It stands to reason that many of these mistakes could have been avoided had the men realized the problems they were facing, studied them more carefully, obtained outside advice, and planned programs to overcome them.

"Here is an excellent check list of hazards to avoid if you want to succeed in business. In studying them it should be kept in mind that, while excessive debt is not mentioned as a separate cause, all of these businesses became involved with creditors and so may be said to have had debt difficulties. Borrowed money has helped many a business to succeed, but heavy use of borrowed money makes any mistake of management, like those listed, have much more serious consequences.

"In applying this table to going feed and farm supply businesses, two qualifications should be kept in mind. One is the fact that this list is built from a study of actual business failures—those that involved bankruptcy or some kind of loss to creditors. It does not take account of the other businesses that quit because the owners got discouraged by poor results or actual losses and closed up before they became involved too deeply with creditors. Undoubtedly, there are many of these each year, but they never reach the failure records. If they could all be studied together with the actual failures, the same causes would undoubtedly continue to come up, although the order of prevalence might be changed.

"The other qualification comes from the fact that this is a study of business failures in the entire retail business field. Obviously, these hazards have different impacts upon different types of businesses. The question of poor location, for instance, is probably a much greater hazard for supermarkets than for feed stores.

"On the other hand, receivables difficulties, we would think from our own studies, is much more of a hazard for feed dealers than its position of seventh in the list would indicate. Rather heavy extension of credit is typical for feed dealers in many areas. Hence it is more of a problem and should be recognized as such. You can't sell substantially on credit without facing the fact that you have a problem to be worked out. The successful operators recognize it as a problem and surround their credit extension with a carefully worked out plan of credit and collection control."

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THE fact that "inadequate sales" leads all the hazards in the table by a wide margin is pointed to as significant by Mr. Wise.

"Not getting all of the sales of which a business is really capable is causing a lot of poor profit results among feed and farm supply businesses," he says. "More effective selling programs and obtaining larger sales volume perhaps have cured more poor profit ailments than anything else.

"Better selling can, over the long pull, cure competitive weakness. It can do a lot, in combination with carefully planned inventory control, to avoid inventory difficulties.

"Finding ways to put more sales volume through a plant can put a heavy fixed asset investment into better proportion. Getting more sales for what you spend can help put operating expenses into line."

Mr. Wise advises feed dealers to study these causes of business failure closely and ask themselves what lessons are in it for them. "It might be well," he says, "to start by recognizing the normal human tendency to blame misfortune on something outside oneself. It's 10 to 1 that if you asked these men who failed for their own opinion of why they failed, the majority would blame 'conditions' or something outside their own management. Yet, in the judgment of these specialists in failure statistics, 85.9% of the failures were caused by something that management did or didn't do.

"Give your own business and management methods a careful checking over. Frankly face your own weaknesses. Then develop a program to do something about them. What you do about them will likely determine the degree of your failure or success."

A FEEDSTUFFS FEATURE

FORMULA FEEDS: HOW'S BUSINESS?

While the volume of formula feed business continued to hold to good totals and even expand in some areas, trade slumped or failed to come up to expectations in others. Shortages of ingredients are hampering production somewhat, notably in the Southeast. Unprecedented cattle feed demand highlights the trade in the Midwest, where according to a new government report the numbers of cattle on feed have gained spectacularly. Poultry feed buying continues at a fair to good pace, including more active broiler ration demand in some areas. With prices still moving up dealers are reluctant to take on any more feed than needed for nearby. Prices of many ingredients are at ceiling levels, with the only notable market weakness being shown by packers' by-products. The index of the wholesale feedstuffs prices gained 1.5 points to 267.9 and the feed grain index jumped 5 points to 257.2 in the week ending Nov. 14. Ingredient details on pages 62-65.

Northwest

Improvement in formula feed sales continued in the Northwest this week as more snow and cold weather moved into the territory. Considerable new volume of dairy and steer feed sales developed, in addition to increased shipping orders on previous contracts.

At the same time, poultry feed demand showed an increase for some manufacturers and continued fair for other concerns. With egg prices holding firm, poultrymen are reported to be getting satisfactory returns in spite of higher feed costs.

Even though recent sales to dealers have been expanding, retailers are maintaining only limited inventories because of high price levels. The expansion in truck lot sales is considered an indicator of hand-to-mouth operations.

Shipments of beef cattle feeds to feed lots and western ranges are seasonally heavy, stimulated both by the large numbers of cattle on feed and the difficulty feeders are experiencing in getting straight ingredients. Dairymen, also, have stepped up their feed buying.

Hog feed sales appear to be holding their own and are rated fair to good by most manufacturers.

Operations were stepped up to 24 hours a day at some plants, and overtime production was scheduled for the week-end by most concerns, including those operating two daily shifts. Backlogs of orders ranged as high as a week or 10 days.

Southwest

Led by an unprecedented surge in cattle feed demand, formula feed sales in the Southwest showed additional improvement this week. Meanwhile, prices continued to move upward with carbohydrate costs reaching a new high for the season. Shortage of oilseed meals, which are jammed against ceiling levels, plagued the feeding industry and created new interest in formula feed.

Dealer after dealer was unable to furnish even their regular customers with oilseed meals for stock feeding, and thus there were fresh orders for cattle feed placed on manufacturers' books. Even with mills which do not make cattle feed, business was fairly active. Better than normal demand was experienced for hog and poultry feeds. The seasonal decline in turkey feed demand continued, and broiler feeds were being sold in only fair volume.

Formula feed price lists showed increases of $1@1.50 ton this week, mainly due to the new tops in feed grain costs. Milo, corn, barley, oats and wheat all reached a high point in the market. Crop year highs for millfeed also were reported.

Production was at five-day capacity, with most mills running a sixth day and a few requiring Sunday to keep up with orders. Dock business was better than average, and carlot sales were good.

Southeast

Cold weather, depletion of consumer inventory and scare buying have combined to slightly improve formula feed business throughout the Southeast.

Critical shortages of both oil meals and high protein by-product ingredients have caused most manufacturers to alter their formulas, varying with the ingredients least difficult to obtain at time of formulation.

In southernmost areas there is a particular screaming need for any type of roughage concentrate which will produce dairy rations as well as cattle supplements. Hay is at a premium, with very little forage and home grown roughages being held by farmer feeders.

Most mills report running a full five-day week, but many say that their production could be increased if they were able to obtain ingredients necessary to fill the existing demand. Demand for poultry mashes is now about normal for this period. With chick placements maintaining a high level and colder temperatures demanding more feeding, the recent slump has now been overcome.

To fill their urgent demand for high protein ingredients, a number of manufacturers are now turning to increased usage of fish meal. Domestic production is practically impossible to obtain, and imports are dwindling. Fishing along southern coasts is holding up fairly well, but processors have a large backlog of orders

(Continued on page 66)

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DELAWARE SHORT COURSE FOR FEED DEALERS SET

GEORGETOWN, DEL.—The annual feed dealers short course, sponsored by the University of Delaware, has been announced for Nov. 29 at Jones Memorial Hall here.

The short course is a concentrated eight-hour session on developments in the poultry industry, according to E. F. Waller, chairman of the department of animal and poultry industry at the university. It is designed to help feed dealers stay abreast of research and technological developments that relate to their businesses.

Topics on the program include bulk feed handling, the feed outlook for 1952, turkey broiler production on the Delmarva peninsula, types of birds desired by processors, fowl typhoid, Newcastle disease vaccines and nonspecific enteritis in broilers. No advance registration is necessary. The program starts at 1:30 p.m. and ends about 9 p.m. Tickets for the banquet at 6 p.m. may be purchased during registration.

CUT IN COTTON ESTIMATE BOOSTS PROTEIN FUTURES

MEMPHIS—A wave of scare-buying on the heels of the government's reduced cotton estimate, plus hasty short covering, gave the protein meal futures markets a shot in the arm and sent prices and sales soaring.

On Nov. 9, the market opened firm as traders awaited the cotton crop report. The stunning figure created heavy buying, and nearby December skyrocketed to the ceiling of $82.05 ton in a matter of minutes. All other deliveries tacked on substantial increases and have held to them or increased since then.

Soybean oil meal, in sympathy with cottonseed oil meal, grew stronger and added new gains the remainder of the week.

At the close of business Nov. 13 cottonseed oil meal prices had advanced as much as $5.25 ton. Nearby December was up 50¢ ton. Soybean oil meal prices were up as much as $2.30 ton during the week.

Sales for the week were 83,200 tons, with 47,000 tons on the soybean oil meal side of the market. The combined total was 35,400 tons greater than at the same time last week.

Demand continues great, as many traders, fearing a shortage in cottonseed oil meal, are trying to cover with purchases of soybean oil meal futures. The supply of both proteins is very scarce.

Heavy selling during the week reduced open interest by 20,600 tons to 242,000 tons. The biggest decrease was on the soybean oil meal side where it fell from 202,700 tons to 186,600 tons this week.

R. Hal Dean

ADA SPEAKER—R. Hal Dean of the purchasing department of the Ralston Purina Co., St. Louis, will address the annual convention of the American Dehydrators Assn. at the Soreno Hotel, St. Petersburg, Fla., Jan. 15-16. Mr. Dean has as a title for his address, "Headaches of a Feed Ingredient Buyer."

J. O. McCLINTOCK PLANS TO LEAVE EXCHANGE POST

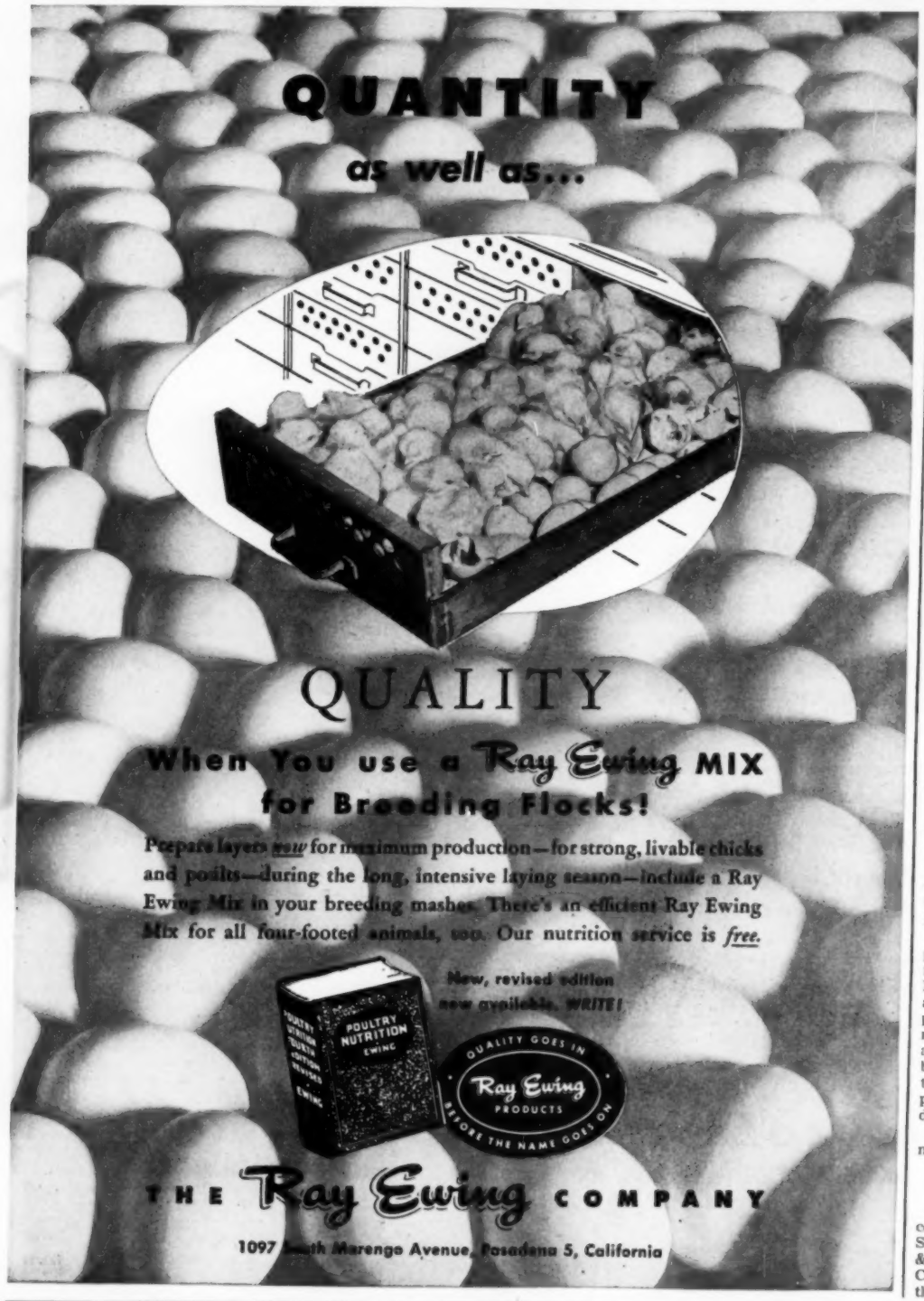
CHICAGO—J. O. McClintock, executive vice president of the Chicago Board of Trade since Jan. 1, 1948, has notified its directorate by letter that he does not wish a renewal of his contract when it expires on Dec. 31, 1952. Mr. McClintock's action is in line with the agreement entered into with the exchange late in 1947, which provides for such notification by him at least 11 months prior to its expiration.

Previous to his appointment to the post with the exchange that he will relinquish at the end of next year, Mr. McClintock served successively as director, vice president and as president of the Board of Trade. Immediately preceding his appointment as executive vice president, he had been affiliated for many years with the Continental Grain Co. as vice president in charge of its merchandising operations in Chicago.

As yet, he has made no announcement with regard to his future plans.

ADDRESSES CLUB

KANSAS CITY—James H. Burrell, consultant on feed industry problems, St. Louis, addressed the Advertising & Sales Executives Club of Kansas City Nov. 12 on selling techniques for the farm market.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75 at Cottonseed Processing Conference

CONFERENCE SPEAKERS—Shown above are speakers at the session on feeding experiments held during the recent conference on cottonseed processing at the Southern Regional Research Laboratory in New Orleans. They are, from left to right, seated, Madelyn Womack, Bureau of Human Nutrition and Home Economics; T. H. Hopper, Southern Regional Research Laboratory, session chairman; Kenneth Kuiken, Buckeye Cotton Oil Co., Cincinnati, and C. M. Lyman, Texas Agricultural Experiment Station; standing, N.R. Ellis, Bureau of Animal Industry, U.S. Department of Agriculture; J. E. Couch, Texas Agricultural Experiment Station; C. L. Morgan, South Carolina Agricultural Experiment Station, and Burt W. Heywang, Southwest Poultry Experiment Station, Bureau of Animal Industry.

NEW ORLEANS—Feeding tests in which cottonseed meals produced experimentally during the past year by a modified screw-pressing technique developed in cooperative research by the Southern Regional Research Laboratory and the cottonseed crushing industry have borne out earlier indications that processing conditions greatly affect the nutritive value of the meal and can be adjusted to produce meals of superior quality, according to a report from the laboratory.

Reports of tests in which large quantities of improved cottonseed meals were fed with excellent results to hogs and growing chicks, as well as to other experimental animals, were presented by state feeding specialists from Texas, Arkansas, North and South Carolina, Florida and Mississippi, and by members of the U.S. Department of Agriculture, at the second annual conference on cottonseed processing as related to the nutritive value of cottonseed oil meal, held in the auditorium of the Southern Laboratory in New Orleans Nov. 5-7. In addition, Kenneth Kuiken of the Buckeye Cotton Oil Co., Cincinnati, described experiments with "degossypolized" cottonseed oil meal produced by his company.

Attendance at the conference totaled 75 persons from 22 states and Washington, D.C., including, in addition to representatives of the oilseed crushing industry, a number of formula feed manufacturers, equipment manufacturers, and others from related industries. One company in Denmark was represented. The conference was sponsored by the U.S. Department of Agriculture and the educational service of the National Cottonseed Products Assn.

Standard Ration Proposed

Following the reports on feeding, which consumed all of Nov. 5, an entire day was devoted to round-table discussions, in which the results were analyzed and significant questions reviewed in order to pinpoint problems requiring further study. This discussion brought out the need for a standard, uniform ration to be used as a means of minimizing the variables so that more comparable results might be obtained in feeding tests conduced by different research workers. A committee, headed by Dr. J. R. Couch, department of biochemistry and nutrition, Texas Agricultural Experiment Station, College Station, Texas, was appointed to agree upon such a ration in future nutritional studies with cottonseed meal.

Reports by members of the Southern Regional Research Laboratory and by Mr. A. C. Wamble of the Texas Engineering Experiment Station brought the group up-to-date on the progress already made in understanding the fundamentals of cottonseed processing and emphasized the type of additional research needed to develop practical methods of producing the meals of superior nutritive value.

The entire conference pointed up greatly enlarged opportunities for constructive research on cottonseed meal, A. L. Ward, director of the educational service, National Cottonseed Products Assn., said in closing the three-day meeting.

"The results of joint efforts of the Southern Regional Research Laboratory, cottonseed crushers and state and federal experiment stations, reported at this conference are most encouraging and should serve to stimulate continued and enlarged processing and nutritional research with the cottonseed products that are one of the South's most important feeds," he stated. "The large attendance of key representatives from both research organizations and commercial firms is evidence of a growing recognition of the need for, and value of, this research program."

E. C. Veeck

RETIRES—E. C. Veeck, president of the Eagle Roller Mill Co., New Ulm, for the past 18 years, recently announced his retirement. He had been associated with the Eagle company for the past 49 years, with the exception of a short period with the Hubbard Milling Co., Mankato, Minn. He was, for many years, superintendent of production for the Eagle company, and while holding that position he was president of the Association of Operative Millers for a term. His son, Charles, currently is president of the AOM.

SIX NEW SALES MANAGERS APPOINTED BY PILLSBURY

MINNEAPOLIS—The appointment of six new regional sales managers has been announced by G. R. Peterson, feed and soy sales manager for Pillsbury Mills, Inc.

John F. Toeller, Jr., who has spent 9½ years in sales with the feed and soy division, will move from Minneapolis to Wichita, Kansas, and will manage the territory including Kansas, Nebraska, Colorado, Texas and Oklahoma.

The Illinois, Indiana and Michigan territories will be handled by Donald W. Thayer who has moved to Danville, Ill. Formerly located in Atchison, Kansas, he has been with Pillsbury for 16 years. He started with the firm as a clerk in the feed department, moved into selling both feed and grocery products, and has most recently served as territory manager, sales supervisor and headquarters representative in the feed division.

Russell Somerville has spent nine years with Pillsbury as territory manager, sales supervisor and headquarters representative in the feed division. He was formerly located at Jackson, Mich., and will now supervise the Ohio, Michigan and Pennsylvania territories.

Harvey D. Bush came to Pillsbury two years ago with considerable experience in the feed business. After serving as a resale man and territory manager, he now becomes regional manager of northern Illinois, Wisconsin, northwest Iowa and the Michigan Peninsula. Formerly located at Ft. Collins, Colo., he will now operate out of Madison, Wis.

After two and a half years as a resale man and territory manager in the feed and soy division, Alan J. Johnson is managing the region including Minnesota, North Dakota, South Dakota and the northern part of Iowa.

Formerly a territory manager working out of Columbus, Miss., Charles N. Hayslett will manage the region including northern Arkansas, the southern third of Iowa and one territory in Illinois. He joined Pillsbury last year.

CHICAGO VISITOR

CHICAGO—J. L. Bolle of Werner & Bolle, New York feed brokerage firm and importer and exporter of feed ingredients, was a Chicago visitor Nov. 9-14. He visited the Chicago office of the jobbing department of Pillsbury Mills, Inc., was conducted on a tour of the Chicago Board of Trade by Raymond Duncan, manager of the office.

A. BOYCE FORBES, 64, SUCCUMBS IN TOPEKA

TOPEKA, KANSAS — A. Boyce Forbes, 64, former president of the Forbes Bros. Central Mills here, died Nov. 7 in a Topeka hospital. He became associated with the firm in 1914, and the family continued to operate it until it was sold in 1950 to the Lauhoff Grain Co. Mr. Forbes retired because of ill health.

MERCK TO INCREASE OUTPUT OF NIACIN AT CHEROKEE PLANT

RAHWAY, N.J.—Increased production of niacin which will relieve the present shortage is expected from a new unit nearing completion at the Cherokee plant of Merck & Co., Inc., near Danville, Pa.

The new unit will have a capacity in excess of 1 million pounds annually, and will begin operations in December.

Niacin is a vitamin used in the enrichment of bread, flour and breakfast foods, and in animal feedstuffs where it has become essential for better meat production.

The manufacture of niacin heretofore has depended upon coal tar raw materials, now in short supply because of government defense requirements. The Danville unit will employ a completely synthetic process using materials which are almost limitless in supply.

Until the new plant is operating satisfactorily, present niacin facilities will continue to be used to the limit of available raw materials.

The Cherokee plant was recently acquired by Merck and is being developed for the production of vitamins, antibiotics and cortone, the Merck brand cortisone.

INTERNATIONAL MILLING SHOWS GAIN DURING YEAR

MINNEAPOLIS — A consolidated net profit of $3,321,410.53 for the fiscal year ended Aug. 31, 1951, was reported for the International Milling Co. and its subsidiary companies in its annual report issued Nov. 9. That total compares with $3,151,434.99 for the previous fiscal year.

The company's total current assets at the close of the fiscal year were $55,271,312, a gain of $3,729,366.

Total current liabilities of the company were shown in the statement to be $27,624,241, an increase of $1,330,430 from the total of $26,293,811 at the close of business Aug. 31, 1950.

The company's inventories of grain, flour, cereals, packages, supplies, etc., were larger by $3,866,729 at the close of the current fiscal year as compared with the previous year's total. The inventories on Aug. 31, 1951, totaled $31,816,781 as compared with $27,950,052 at the same time last year.

The company's property and plant valuation increased by $1,675,000 during the year, according to the statement. The total, "stated substantially at sound value per appraisal in 1922, plus subsequent additions at cost, less subsequent depreciation," was shown at $18,541,552 as compared with $16,866,469 on Aug. 31, 1950.

Improvements in progress to plants and properties total $2,367,946. It was estimated that it will cost $1,050,000 to complete these projects.

GIVES MARKET TALKS

CINCINNATI—Ralph H. Brown, president of the Ohio Grain, Mill & Feed Dealers Assn., has resumed his winter schedule of illustrated lectures of "The Story of the Market." On Oct. 25 he appeared before the faculty and student body of Mt. St. Joseph Seminary here, and on Nov. 14 he was guest of the Parent-Teacher groups of the Milford, Ohio, schools in the Milford High School.

Production of Millfeed Declines

Production of millfeed in tons for the current and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72% flour extraction:

	Southwest* Weekly production	Southwest* Crop year to date	Northwest* Weekly production	Northwest* Crop year to date	Buffalo† Weekly production	Buffalo† Crop year to date	Combined** Weekly production	Combined** Crop yr. to date
Nov. 4-9	24,396	466,281	15,513	264,577	9,003	170,482	48,911	901,340
Previous week	25,223		15,965		10,190		50,388	
Two weeks ago	24,996		15,693		9,163		49,852	
1950	24,400	483,232	12,448	261,540	8,871	168,029	45,719	911,791
1949	25,424	492,104	13,859	262,438	11,349	208,760	50,632	983,302
1948	30,598	608,584	16,525	330,854	10,363	218,565	57,796	1,057,972
1947	30,737	613,963	18,284	362,464	11,783	201,349	60,904	1,175,950
Five-yr. average	27,233	532,626	15,346	280,278	10,274	193,419	52,853	1,006,420

*Principal mills. **84% of total capacity. †All mills. ‡Revised.

J. L. Krider Heads Feed Sales at McMillen; Firm Holds Meeting

FORT WAYNE, IND. — The appointment of Dr. J. L. Krider to the position of vice president and director of feed sales of McMillen Feed Mills was announced to company personnel by H. W. McMillen, executive vice president, at the firm's 17th annual sales convention held recently at French Lick, Ind.

Dr. Krider joined McMillen Feed Mills in July, 1950, as director of feed research and education. In his new capacity, he will be responsible for distribution of Master Mix Feeds and McMillen farm supplies throughout

Dr. J. L. Krider

the company's entire trading area, which comprises the Midwest, Middle Atlantic and southern states. He also will have executive responsibility for research and sales training activities.

Prior to joining McMillen Feed Mills, Dr. Krider had distinguished himself in the field of animal nutrition. He was formerly head of the swine division, department of animal science at the University of Illinois College of Agriculture.

Born and raised on a 160-acre farm near Lewistown, Ill., he took an active interest in 4-H Club work and was Fulton County and Illinois 4-H Science Club champion in 1934, and that same year received the Thomas E. Wilson Swine Award. Dr. Krider graduated with highest honors from the University of Illinois in 1939. He did advanced research in animal husbandry at Illinois and at Cornell University, receiving his Ph.D. degree from Cornell in 1942.

Dr. Krider will make his headquarters at the executive offices of McMillen Feed Mills in Fort Wayne, Ind.

Important changes in the feed sales division of McMillen Feed Mills also have been announced by Mr. McMillen.

New Sales District

Topping the list is the establishment of a new sales district and another sales territory in Michigan. The new district will consist of five territories and be known as the North Central district.

Fred Wolter, southeastern Michigan territory manager for the past nine years, has been appointed manager of the new district. Mr. Wolter, a graduate of Notre Dame University, has been engaged in feed sales work with McMillen Feed Mills since 1942.

Merle Altstiel and O. G. Bryant were named territory managers in the new North Central district to fill the vacancies created by Mr. Wolter's promotion and establishment of the new territory. Both men served as assistant territory managers in eastern Michigan prior to being promoted. Mr. Altstiel has been with McMillen Feed Mills since March, 1950. He is a graduate of Michigan State University. Mr. Bryant, who joined the company in July, 1948, graduated from the University of Illinois and was formerly a vocational agriculture teacher in Illinois high schools.

Mr. McMillen also disclosed another major promotion in the company's southern division. E. S. Burroughs, formerly McMillen territory manager in Arkansas, has been made manager of the company's southwestern district, which covers Arkansas, central and western Tennessee, Mississippi, Alabama, southern Missouri, Louisiana and western Kentucky. He succeeds Frank Dalrymple, who was recently made sales manager of the southern division. Mr. Burroughs started with McMillen Feed Mills in July, 1947. He received his education at Marshall College.

Sales Programs

Plans for one of the most intensive sales and merchandising programs in the history of the company were announced at its sales convention in French Lick. Effective advertising programs in many media on both local and national levels, and new sales techniques and training methods were thoroughly discussed during the meeting. Particular emphasis was placed on the merchandising and promotion plans for the company's new swine feeding plan, which covers the complete life cycle of the hog and pinpoints the feeds to nutritional needs from breeding time to market.

Fred Thomas, president, closed the conference with an introduction of the company's staff organization in his talk, the "Cavalcade Behind Sales." He paid tribute to the various departments in the company which had made outstanding contributions to the growth of the organization and stressed the importance of the many people who make it possible for the salesmen to sell.

Featured luncheon speaker during the convention was Fred O'Hair, president of the Central National Bank of Greencastle, Ind., whose address was entitled, "A Banker Analyzes the Credit Problems in the Feed Industry."

The annual "Wildcat banquet" again was a feature of the convention. At this banquet meeting, recognition is given to the men whose outstanding sales achievements qualify them for membership in the company's Wildcat Club. Awards were presented by D. W. McMillen, chairman of the board of directors, to the following men: Fred Wolter, Everett Garnett and John Cochran, all of Michigan; Fred Yingling, Robert McGriff and John Nagelsen, Indiana; Frank Franz, Virginia; Guy Mallory, Ohio; Max Bleekman, Alabama, and E. P. Riley, Georgia.

Mr. McMillen also announced that this year a new honorary group, the Pacesetters, had been organized to recognize the company's retail store managers who had done an outstanding job during the year. He named Tom Jackson, manager of the Allegan, Mich., store, and Robert Knecht, manager of the Paris, Ill., store, to this group. Speaking at the closing session of the convention, Mr. McMillen reaffirmed the principles and policies of the company.

Be sure to see the KELLY DUPLEX ad next week

FOR SALE
Molasses • Oats • Millfeed
WOOD'S GRAIN & FEED CO.
MOVILLE, IOWA

Fruen's

Your Formula Feeds Deserve the BEST!

Grain products are basic ingredients for formula feeds. When it comes to grain products for YOUR feeds—Choose Fruen's. Where else can you get such a wide assortment of quality grain ingredients? Check the list below against your requirements. We can fill your order for any assortment from the list—mixed cars at straight car prices. Ask us for samples and prices delivered your station.

Our Teletype number is: MP 477

Mixed cars at straight car prices. *Samples on request*

TOWER BRAND ROLLED OATS (Steam Rolled)
ACE BRAND ROLLED OATS (Steam Rolled)
WHOLE OAT GROATS
STEEL CUT OAT GROATS
GROUND OAT GROATS
GLENWOOD FEEDING OAT MEAL
FALCON BRAND PULVERIZED WHITE OATS
STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
STAR BRAND PULVERIZED MIXED FEED OATS
CRESCENT PULVERIZED OATS
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STAR HULLED BARLEY GRITS
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Millers TO THE FEED TRADE

FRUEN MILLING COMPANY
MINNEAPOLIS 5, MINNESOTA

OATMEAL and CUT WHEAT
MADE ON
KIPP-KELLY
Rotary Granulator
WITHOUT WASTE
GRANULAR UNIFORM CUT ASSURED

World's standard machine for cutting wheat, kilned or undried hulled oats, hulled barley, rice, rye, etc., (not corn) for cereal and poultry foods. Rugged design, low in upkeep cost, capacity 300 to 500 pounds per unit per hour. Six unit machines producing 1,800 to 2,400 lbs per hour. Supplied in 1, 2, 4, 6 Unit Sizes.

Inquire of your Mill Furnisher or write

KIPP KELLY LIMITED
WINNIPEG, MANITOBA, CANADA

SINGLE UNIT CUTTER

Southern Sunshine

ADA Post-Convention Tour Set; Includes South Florida, Havana

For those alfalfa dehydrators who choose the full treatment, the 1952 convention will be "the trip of your life," according to Ray Cox, chairman of the American Dehydrators Assn. transportation committee, which has made arrangements for a special train to the ADA convention and a three-day post convention tour of southern Florida beauty spots, climaxed by a visit to romantic Havana.

(Details of the ADA convention program are reported in the Special Alfalfa Section of this issue of Feedstuffs, beginning after page 34.)

Here is the program, which, of course, is open both to dehydrators and members of the allied industries.

Special Pullman cars will be set out at Kansas City for occupancy at 10 p.m. Jan. 11. The train will arrive in Memphis the following morning at 9:45 Jan 12 and will reach Jacksonville, Fla., at 7:30 a.m. Jan. 13. At about 4:55 p.m. that same afternoon it will arrive in the convention city of St. Petersburg.

For those who want to spend a little more time in the southern sunshine after the convention is over, the following schedule has been arranged:

Florida Tour

Special busses will leave St. Petersburg Jan. 17 for a trip across Florida. The route will run through Tampa and the heart of the Florida citrus belt, past phosphate mines, cattle ranches and through the beautiful lake region to Cypress Gardens at Winter Haven. The next spot of major interest will be the famous Bok Tower near Lake Wales with its surrounding gardens and bird sanctuary.

Then the route continues along the shores of Lake Okeechobee to Palm Beach, that brilliant jewel of American winter resorts. Then on to Miami and the luxurious McAllister Hotel for the night.

Next day the morning in Miami is reserved for shopping, browsing, watching the bathing beauties or whatever each visitor chooses. The afternoon will be occupied with a special sight-seeing tour of greater Miami, completing the trip at the boat dock in time to board the S.S. Florida for Havana at 6 p.m. Dinner and dancing are the schedule on board.

Breakfast will be served on the Florida prior to arrival in Havana. Then, rooms will be reserved at either the Sevilla-Biltmore or National Hotels. Several tours have been arranged for the remainder of the day.

One will cover the city and immediate suburbs, visiting everything in Havana from Sloppy Joe's to the Colon Cemetery, cigar factories and rum distilleries. A second tour will take visitors through the beautiful residential sections of the wealthy Cuban "caballeros." Choice No. 3 is a visit to the national capitol with its many historic contents. And, after dinner at the hotel in the evening, there will be a tour of the famous night spots of Havana—Austuriana Club, San Souci Night Club, National Casino and a visit to an exhibition of that speediest national sport Jai Alai.

On Sunday there will be a special trip by auto and launch to the famous Old Morro Castle near where the battleship Maine was sunk. After the visit is over, the guests will check out of the hotel to board the boat for the return trip—again dinner, dancing and breakfast on the boat which arrives in Miami about 8:30 a.m. Jan. 21.

The cost? Well, exact figures have not yet been compiled by Ray Cox, transportation chairman of the ADA, but he estimates that it will be about $125 per person, which includes practically everything mentioned above in the description of the tour.

But whether you take the big fun-packed tour or not, you are welcome in the special cars from Kansas City to St. Petersburg, Mr. Cox says. And, of course, the Florida tour and Havana trip are open to those who go to the convention by other means of transportation besides the special cars.

It is a rare opportunity to see all the finest features of these famous winter resorts right at the peak of the season and without trouble with reservations, timetables, etc.

So keep an eye open for an official announcement from the American Dehydrators Assn. and a reservation blank for the big "trip of your life."

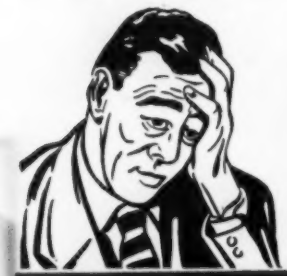
PROTEST OF OMISSION IN TRANSIT BILLING URGED

KANSAS CITY — Formula feed manufacturers in western trunk line territory were urged this week to protest to the trunk line railroads the omission of oilseed meals from the unit rule on transit billing in the new Supplement 10 to Western Trunk Line Tariff No. 331-N which is scheduled to become effective Dec. 1.

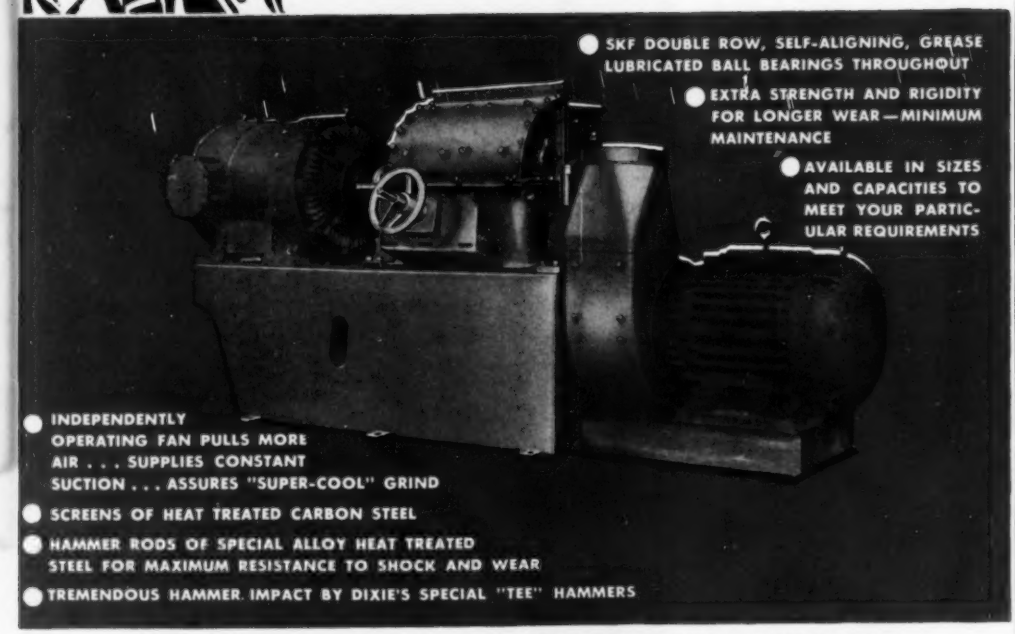
The traffic advisory committee of the Midwest Feed Manufacturers Assn., in a letter to members of that organization, pointed out that if this omission is continued, it will cost formula feed manufacturers considerable additional freight charges and much extra work. It then would be necessary to surrender billing on each individual oil meal in a formula feed shipment, instead of allowing any one of the Group 2 oilseed meal items to be freely substituted for another. The net effect would be to curtail rate advantages of many mills, the committee said.

The committee, which met in Kansas City, Nov. 10, said it was uncertain whether the Group 2 omission in the new tariff was accidental or intentional, but in either case a protest by feed manufacturers to the railroads was in order. Chairman of the traffic advisory committee is Owen Smith of Cargill, Inc., Minneapolis.

Other members who attended the meeting were Leo Hummel, Staley Milling Co., North Kansas City, Mo.; Howard Riley, Riley Feed Co., Kansas City; Wayne Burrow, O. A. Cooper Co., Humboldt, Neb.; Robert Hohman, G. E. Conkey Co., Nebraska City, Neb.; John Hartnett, Flour Mills of America, Inc., Kansas City, and J. D. Dean, executive vice president of the Midwest association, Kansas City.



PLAGUED WITH A PRODUCTION HEADACHE?



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- EXTRA STRENGTH AND RIGIDITY FOR LONGER WEAR—MINIMUM MAINTENANCE
- AVAILABLE IN SIZES AND CAPACITIES TO MEET YOUR PARTICULAR REQUIREMENTS
- INDEPENDENTLY OPERATING FAN PULLS MORE AIR . . . SUPPLIES CONSTANT SUCTION . . . ASSURES "SUPER-COOL" GRIND
- SCREENS OF HEAT TREATED CARBON STEEL
- HAMMER RODS OF SPECIAL ALLOY HEAT TREATED STEEL FOR MAXIMUM RESISTANCE TO SHOCK AND WEAR
- TREMENDOUS HAMMER IMPACT BY DIXIE'S SPECIAL "TEE" HAMMERS

GET INSTANT RELIEF WITH THE MIRACLE-WORKING

DIXIE FEED MILL

The sure-fire remedy for feed mill operators confronted with the production difficulties incurred in a defense economy is the Dixie Feed Mill . . . the feed mill that gives you more of everything you need to grind feed better . . . faster . . . at less cost. More for your money is assured by Dixie's Double-Action Drive, a unique feature that assures the ultimate in granular grinding, relief of congestion, higher production efficiency, with less power. Dollar for dollar, a Dixie is the best and most dependable feed mill you can buy. Plan now to cut your feed grinding costs . . . step up capacity . . . improve quality . . . increase your sales and profits. Write us today for details or use the handy coupon.

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Gentlemen: Please send free bulletin explaining money-saving advantages of Dixie Double-Action Feed Mills.

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ALFALFA RESEARCH PROJECT

PROJECT: Investigation of the Lipid Fraction of Dehydrated Alfalfa

LEADERS: Ralph E. Silker, H. L. Mitchell and W. G. Schrenk

PLACE: Kansas State College, Manhattan

EDITOR'S NOTE: This report on a dehydrated alfalfa research project at Kansas State College is one of a number of reports on American Dehydrators Assn. research projects in this issue of Feedstuffs. Other reports appear in the Special Alfalfa Section which follows page 34. The reports begin on pages 9a and 40a in the special section.

In recent years considerable study has been devoted to methods of preparing carotene concentrates from alfalfa for use as feed additives. Many other substances are extracted along with the carotene; yet little has been done to devise methods for isolating them or to find uses for them. The American Dehydrators Assn. and the Kansas Industrial Development Commission have sponsored a project at Kansas State College for a study of some of these extractives.

A wax has been isolated from dehydrated alfalfa meal and has been resolved into three components: an alcohol, a paraffin and an ester. The paraffin constitutes the major portion of the wax. The separation of these constituents was accomplished by a combination of adsorption and fractional crystallization. The materials are white solids which take on the usual appearance of a wax when they are melted and allowed to solidify. The resolution of the wax into three constituents will make it possible to recombine them in such proportions that the mixtures may have properties which will make them useful in polishes, printing inks, etc.

Certain sterols can be converted to vitamin D by ultraviolet irradiation. A sterol, alpha-spinasterol, was isolated from alfalfa meal as a by-product in the preparation of carotene concentrates. This sterol could be converted to vitamin D to some extent by irradiation. A 10-minute irradiation was not sufficient to produce vitamin D activity, while the maximum conversion was obtained with 30 minutes of irradiation. Bioassays indicated that the irradiated material had a potency of 75,000 U.S.P. rat units and 7,600 international chick units per gram.

Ultraviolet irradiation of carotene concentrates for 30 minutes does not cause destruction of the carotene. Hence, it is possible to produce a concentrate having both vitamin A and vitamin D potency by irradiation of carotene concentrates without first removing the sterol. Such a concentrate should find use in poultry rations, since these two vitamins frequently are not present in sufficient quantities to permit proper chick growth.

(Note: Dr. Ralph E. Silker is head of the chemistry department at Kansas State College, and Dr. H. L. Mitchell and Dr. W. G. Schrenk are on the staff of the department.)

LOSS OF FEED VALUE

Late cutting and weather damage causes the greatest losses of feed value in hay crops, according to the North Dakota Extension Service.

Something New

PK Charles the 1st brown bag

• Specially constructed to give *greater* strength—with *less* breakage—but actually LOWER IN COST! Ask us about it.

PK ESTABLISHED 1908

PERCY KENT BAG COMPANY, INC.

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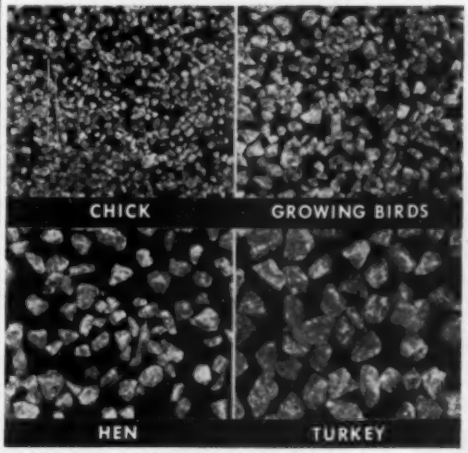
Distributors Wanted

for new PROFIT-PACKED poultry item

3M BRAND crystal grit!



Whitest and Brightest of them all! Uniform in color—99% insoluble! 3M Brand Crystal Grit helps produce more eggs and heavier birds for poultry-raisers—more sales and heavier profits for you. Made of pure quartz crystals, it's a *harder, better* grinding medium. It's a sure seller! Prove it to yourself.

Write Today! for FREE samples and complete information. Address card to CRYSTAL GRIT, Minnesota Mining & Mfg. Co., Dept. F-111, St. Paul 6, Minnesota.

FOUR SIZES—Perfectly graded for chicks, poults and pullets, hens and turkeys. Stock all four fast-selling sizes.

THREE PACKAGES—Packed in fast-selling 80 lb. economy bag, handy 50 lb. and 25 lb. feeder boxes.

Counter Display Sells! Invites attention. Attracts sales. Helps CRYSTAL GRIT *sell on sight!* New point-of-purchase sales aid contains colorfully displayed samples of all grit sizes. Available in quantity lots for dealer-distribution.

3M BRAND crystal grit

Made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: Minn. Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y. In Canada: Minn. Mining & Mfg. of Canada, Ltd., London, Canada.

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QUALITY GOES IN BEFORE THE NAME GOES ON

OPS EXEMPTS CORN COBS FROM PRICE REGULATION

WASHINGTON — The Office of Price Stabilization has issued an order exempting corncobs from price control. The action was taken in Amendment 5 to General Overriding Regulation 7.

OPS said the decontrol order is aimed at helping to prevent any furfural production bottleneck created by a short supply of corncobs. Corncobs are a basic raw material in the production of furfural, a chemical of importance used for many industrial purposes.

OPS said it had been told that, although there is no general shortage of corncobs, the major manufacturer of furfural has had difficulty in obtaining the increased cob supply needed. It was said that the margins of sellers of corncobs have been reduced by increasing costs of gathering and shipping them to furfural plants.

In view of great variances in cob suppliers' costs and ceilings, OPS officials said, the only practicable immediate action was to exempt corncobs from control.

HARVESTING THE PLANT—Several efficient styles of harvesters have been developed for cutting, chopping and loading alfalfa in the field. One type of machine is shown above. When the plant is chopped, it is blown into the trailer behind. When full, the trailer is disengaged and hauled to the dehydrator and an empty one substituted. (For other pictures and articles on alfalfa, alfalfa dehydrating and the American Dehydrators Assn., turn to the special alfalfa section in this issue of Feedstuffs, following page 34.)

MONTANA POULTRY SHOW TO BE HELD DEC. 3-5

BOZEMAN, MONT.—Problems of poultry feeding and of production of eggs, broilers and turkeys will be featured at the 1951 Montana All-Industry Poultry School and Show to be held at Montana State College here Dec. 3-5.

Scheduled to assist with the school program are nine out-of-state speakers including Dr. R. L. Bryant and Prof. C. E. Lampman, heads of the departments of poultry husbandry at the North Dakota Agricultural College and the University of Idaho, respectively; Art Lanz and Felix T. Wright, hatcherymen of Devils Lake, N.D., and Silverton, Ore., respectively; Joe Taggart and Ray Tuttle, incubator manufacturer and representatives of Cleveland, Ohio, and Salt Lake City, Utah; Ray C. Wright and W. E. Culp, poultry equipment supply representatives of Seattle, Wash., and Oak Park, Ill., and Claude Brown, a turkey producer of Cody, Wyo.

The assistance of 37 in-state program personnel will provide a complete program for the event. The show phase of the event includes an exhibit of dressed chickens and turkeys and market eggs.

UNITED GRAIN GROWERS NET PROFIT INCREASES

WINNIPEG—J. E. Brownlee, Calgary, was reelected president of the United Grain Growers, following the annual meeting here last week. Previously he had been elected to serve another period as a director of the company. R. C. Brown, Winnipeg, was reelected as first vice president.

Net profit for the company for the year ending July 31, 1951, was $561,621, which compares with $393,182 the year previous. The firm showed record earnings of $1,902,734 for the year. The company now has 612 country elevators, with a total storage capacity of 32,574,000 bu. while at Port Arthur the terminal elevator has a capacity of 6,500,000 bu., and the capacity of the Vancouver terminal elevator is 2,700,000.

Resolutions endorsed at the meeting dealt with financial assistance to grain producers, inflation, and livestock policy. The federal government was urged to complete final payment on the 1950 wheat crop as soon as possible, and to estimate price levels for the current crop year so that as large an interim payment as possible may be made at an early date. Sen. T. A. Crerar, a former president of the United Grain Growers, addressed the meeting. Guest speaker at the annual banquet was Premier T. C. Douglas of Saskatchewan, who urged action to protect the prairie economy. He referred to Western Canada's 1951 harvest as "the heartbreak harvest."

NEW MANAGER

SHALLOW WATER, KANSAS—R. W. Kamp has been named manager of the Collingwood Grain Co. elevator here. He has replaced Cecil White who has moved to Wichita.

RUSSELL BRANNEN IN NEW KENT FEEDS POST

MUSCATINE, IOWA — Russell Brannen has been appointed to the newly created post of cattle specialist for Kent Feeds, Muscatine and Sioux City, Iowa, according to an announcement by O. W. Joiner, general manager of the feed firm.

Mr. Brannen has been with the retail sales division of Kent Feeds for four years. His new duties will include working with 4-H, F.F.A. and other youth groups throughout the Midwest in developing their feeding programs. He will also work with commercial and show cattle feeders in the area.

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50 lb.

MULTIWALL PAPER BAGS

Available NOW!

- Minimize Your Packaging Costs
- MULTIWALLS Give Multiple Protection
- MULTIWALLS Prevent Siftage
- MULTIWALLS Empty Clean

Immediate shipment from our St. Paul stock—carload or l.c.l. quantities

PHONE OR WIRE US COLLECT TODAY!

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BONDED BAGS

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Rats prefer WARFAR-MOR PELLETS OVER LOOSE CORN, OATS AND OTHER MIXTURES ALMOST 8 to 1

CONTAINS FAMOUS WARFARIN

Hilltop's WARFAR-MOR

Pellets . . . Kill RATS and MICE!

Outstandingly Effective Year-Round Control of Destructive Germ Carrying Rodents

WARFAR-MOR PELLETS LEAD ALL OTHERS IN BAIT STUDY

- Out of 7 baits, Hilltop's WARFAR-MOR PELLETS most acceptable!
- Rats preferred Hilltop's WARFAR-MOR PELLETS over loose corn and oat mixtures and all others 8 to 1!
- Rats preferred Hilltop's WARFAR-MOR PELLETS containing Warfarin over loose bait without Warfarin about 3 to 1!

WARFAR-MOR kills in any season at any temperature!

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HILLTOP LABORATORIES — Baits for Poultry

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COLUMBIA SOFT PHOSPHATE

U. S. Dept. of Agriculture tests* indicate this phosphate is 69% as available as bone meal . . . yet it costs (per percent of phosphorus) considerably less than one-half as much.

Journ. of A.O.A.C., Feb. 1945.

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COLUMBIA PHOSPHATE CO.

1007 Washington Ave.

St. Louis 1, Mo.

HEALTH

FOR YOUR CHICKENS AND TURKEYS AND MORE PROFIT FOR YOU

Hard cutting edges of Rainbow Grit in the gizzard grind food fine for complete digestion. Promotes health. Saves feed.

FOUR SIZES

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N.W. Feed Group Adds $2,000 to Research Grants

MINNEAPOLIS—Another grant of $2,000 to the University of Minnesota this week brought contributions toward a poultry nutrition research fellowship by the Northwest Feed Manufacturers Assn. to a total of $10,000 over the past five years.

The presentation of the check was made at the organization's dinner meeting Nov. 12 at Hotel Radisson by Wayne Fish, Wayne Fish & Co., chairman of the association's fellowship committee.

Mr. Fish, terming the contribution "the token of a great ideal in industry-education cooperation," expressed the hope the association would always be able to maintain its support of nutrition research.

Association Proud

"The feed industry has received a great deal of benefit from university research, and our association is proud to help maintain this work," Mr. Fish said.

Dr. H. J. Sloan, chief of the university's division of poultry husbandry, who accepted the check for the university, complimented members of the group for taking an active interest in the university's efforts.

Current studies include work with vitamin B_{12} for turkeys, high energy diets and breeder diets for turkeys, Dr. Sloan reported. He said it was hoped experiments could be conducted soon on synthetic or "pure" diets to get at more fundamental facts of poultry nutrition.

Sports Writer Talks

The featured speaker at the meeting was Halsey Hall, Minneapolis sports writer and broadcaster, who provided an entertaining collection of sports stories and commented on Minnesota football under its new coach, Wes Fesler.

L. O. Hauskins, Nutrena Mills, Inc., chairman of the Christmas party committee, reminded members of the event scheduled for Dec. 14 at the Minneapolis Golf Club. A party equal to or better than the successful dinner dances the past two years was promised by Mr. Hauskins.

Earl Hanson, Archer-Daniels-Midland Co., association vice president, presided in the absence of the new president, John W. Zipoy, Pillsbury Mills, Inc., who was unable to attend. Mr. Zipoy is serving in Washington as head of the feed section of the Office of Price Stabilization. An appropriately-inscribed gavel to be presented later to Mr. Zipoy was shown by Mr. Fish, retiring president of the group.

OFFICE DESTROYED

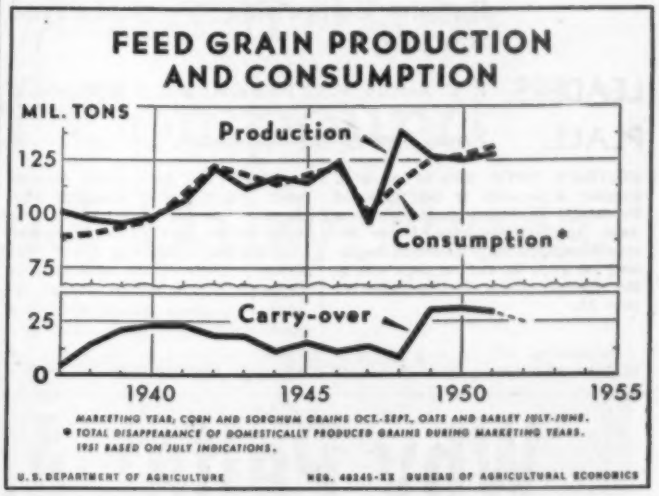
TONGANOXIE, KANSAS—The office of the Tonganoxie Elevator was destroyed by fire of undetermined origin Nov. 8, with estimated loss to building and contents placed between $3,000 and $4,000, according to William Shaw, owner. The Tonganoxie fire department kept the flames from spreading to the nearby elevator where about 12,000 bu. wheat, corn and soybeans were stored.

STUDY SHOWS USE OF SALT BY BEEF CATTLE

URBANA, ILL.—Beef cattle will eat just about the same amount of salt, no matter what their age or ration is or whether they're on pasture or in drylot. That's the general result from a 3-year study by University of Illinois beef cattle specialists.

In drylot, animals have averaged just over 2½ lb. per head per month. That's for nearly 30,000 cattle-days with yearling steers and heifers and 2- and 3-year-old steers on different rations. The small variations from the average show that salt consumption is much more uniform than was formerly believed.

On pasture, average amount of salt eaten during some 14,000 cattle pasture-days was 3 lb. per head per month. Variations on pasture were even smaller than in drylot. Weathering losses amounted to about 7 lb. per month for each 50-lb. block of salt. Losses were checked by placing control blocks outside the pasture gate.



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ALFALFA RESEARCH PROJECT

PROJECT: The Value of Dehydrated Alfalfa Pellets as a Supplement to Dairy Cow Rations Comprising Non-Legume Roughage

LEADERS: E. E. Bartley, F. C. Fountaine and D. B. Parrish

PLACE: Kansas State College, Manhattan

EDITOR'S NOTE: This is one of a number of reports in this issue of Feedstuffs on American Dehydrators Assn. research projects. Other research reports may be found beginning on page 9a and on page 40a in the Special Alfalfa Section following page 34.

Dehydrated alfalfa may be used in the dairy cow ration in one of two ways: (1) as a grain replacement, and (2) as a roughage supplement. In this study, which was supported in part by the American Dehydrators Assn., the latter was chosen because of the possibility of increasing T.D.N. intake through additional roughage consumption, and thereby possibly increasing milk production.

Prairie hay was chosen as the roughage because of its importance in the rations of dairy cattle in several of the central states, and because a previous experiment of similar design has shown that a supplement of dehydrated alfalfa to a ration containing alfalfa hay significantly increased milk production. It was felt that dehydrated alfalfa might show a greater effect as a supplement to a poorer roughage.

Eighteen cows were divided into two comparable groups on the basis of 4% fat-corrected milk production and body weight. A double reversal design was used to compare two rations: (A) Prairie hay ad libitum, 2 lb. sorgo silage per 100 lb. body weight daily, and a grain concentrate mixture containing approximately 21% protein fed according to milk production. (B) Prairie hay ad libitum, 2 lb. sorgo silage per 100 lb. body weight daily, 0.5 lb. dehydrated alfalfa pellets per 100 lb. body weight daily, and a grain concentrate containing approximately 16% protein fed according to milk production.

Preliminary and changeover periods were of 14 days, and the test periods 21 days' duration. Only data obtained in the 21-day test periods were analyzed. Milk samples were taken at the beginning of the experiment and at the end of each 21-day test period for vitamin A and carotene determinations.

When the cows received the dehydrated alfalfa pellets, they consumed 4.4 lb. more hay equivalent (weight of prairie hay plus weight of sorgo silage calculated to 90% dry matter plus weight of dehydrated alfalfa) and produced 1.2 lb. more 4% fat-corrected milk daily than when they received only the non-legume roughage. Both of these differences are statistically significant, with odds greater than 99 to 1 against the possibility that these differences could occur by chance. Actually the cows consumed almost as much hay while they were receiving the dehydrated supplement as they did when no supplement was fed. Preliminary observations indicated that the extra T.D.N. consumed during the supplemented periods could account for the extra milk production.

Milk from the cows when receiving a supplement of dehydrated alfalfa contained 10.87γ per 100 ml. more carotene and 0.18γ per 100 ml. more vitamin A than when on the non-legume roughages. The difference in carotene was significant but that in vitamin A was not significant.

With prices existing at the time the experiment was conducted, the feeding of dehydrated alfalfa pellets as a roughage supplement for increasing milk production was not economical. It is difficult to ascribe a monetary value to the extra vitamin A potency imparted to the milk, to the extra minerals and possible unidentified nutrient factors. However, it is possible that by taking these foregoing factors into account, price situations might exist when it would be feasible to use dehydrated alfalfa as a roughage supplement for milk production.

(Note: Dr. E. E. Bartley and Dr. F. C. Fountaine are members of the dairy husbandry department staff at Kansas State, and Dr. D. B. Parrish is a member of the chemistry department staff.)

ALFALFA MEAL DESTROYED

HARVARD, NEB.—Fire recently destroyed the Morrison & Quirk warehouse here, which housed about 225 tons of alfalfa meal. Officials placed the alfalfa meal loss at between $11,000 and $12,000. The new metal warehouse collapsed while firemen were fighting the blaze.

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Over 500 Hear Latest Nutrition Information at Ohio Conference

DON E. ROGERS
Feedstuffs Editorial Staff

COLUMBUS, OHIO—Between 500 and 600 feed men, representatives of allied trades, farm managers and scientists from eight states came to Ohio State University Nov. 8-9 for the 12th annual Ohio Animal Nutrition Conference, making this one of the largest meetings of this kind in the nation. D. D. Moyer, extension poultryman, Ohio State University, in charge of the conference, reported the turnout of delegates about the same as last year.

Thirteen livestock and poultry scientists presented the latest information on nutritional research developed from feeding experiments on swine, dairy cattle and chickens. The feed situation was described by Walter C. Berger, president of the American Feed Manufacturers Assn., Chicago.

All sessions of the two-day meeting were held in Plumb Hall, the animal husbandry building, on the university farm just off the campus. Luncheons served by students in poultry and animal science kept the delegates in the hall and provided them with all of the barbecued chicken, baked ham and roast beef they could eat for $1.50 a meal.

Wilbur Bruner, extension economist in livestock marketing, Ohio State University, opened the conference with a lecture on producing swine for today's consumer preference. He used two sides of pork and a number of meat cuts to illustrate the types of meat cuts consumers prefer. Consumers have shown a tendency to "eat high on the hog" during the last two decades, Mr. Bruner said. They more and more tend to favor hams, picnics, loins, pork chops and Boston butts over lard and fat cuts.

Swine Industry Problem

This situation presents a problem to the swine industry and cannot be solved by any one segment of the industry, Mr. Bruner pointed out. Swine breeders, commercial hog producers, livestock marketing agencies, packers, feed manufacturers, agricultural colleges and experiment stations should be concerned.

The decline in demand for fat cuts and lard in relation to the lean cuts has brought about marked changes in price relationships among pork products. In turn, this has caused hog prices in recent years to be lower than they otherwise might have been. Pork products which do not meet consumer preference depress the overall hog price level and all hog producers are penalized, he said.

Ohio State University is developing a program of swine improvement and swine marketing improvement which is designed to show farmers how to produce animals which will provide more of consumer preference meat cuts and assure farmers who put forth such efforts a reward in the form of premium prices. Work done to date indicates hogs of similar weight might be live graded into three grades: choice or above average, good or average, and fat or below average, Mr. Bruner said. It is possible to judge meat quality by viewing live animals.

B_{12}, Antibiotics

Lecturing on vitamin B_{12} and antibiotic supplements in rations for growing and fattening pigs, W. L. Robison, Ohio Agricultural Experiment Station, said different theories have been advanced as to why antibiotic is beneficial. Among them is the stimulation of hormone activity. A more commonly accepted one is that it reduces the number of harmful micro-organisms and thereby encourages the development of helpful micro-organisms in the intestinal tract.

Reports of others and observations of the change from a disease-ravaged to a relatively healthy herd after the feeding of a B_{12} and antibiotic supplement and of a B-vitamin concentrate was started, led to the belief that an antibiotic will aid in the control of some types of enteric troubles, he said.

Several experiment stations have investigations in progress to see whether a B_{12} and antibiotic supplement has a protein sparing action, Mr. Robison stated. Some of these have indicated such savings in feed, but further data are needed before conclusions are warranted. Another question is whether hogs that have been fed a B_{12} and antibiotic supplement carry more fat than those that have not. Anything that increases the rapidity of the gains tends to make hogs fatter at a given weight, he said.

Animal Protein

The place of animal protein in modern rations was described by Dr. O. H. M. Wilder, American Meat Institute Foundation, Chicago, who stated that although it is possible to make a feed without them, better feeds can be manufactured when such proteins are employed. They supply the protein, minerals and vitamins required in every good feed, he said.

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protein concentrates may seem high, Dr. Wilder said, but when considering the different nutrients in a ton of meat and bone scrap, this is not the case. One ton of meat and bone scrap contains 1,000 lb. of protein, 6.4 grams of riboflavin, 3.8 grams of pantothenic acid, 49 grams of niacin, 60 milligrams of vitamin B_{12}, 4 lb. of choline, 750 lb. of bone (bone meal equivalent) of which 210 lb. is calcium and 96 lb. is phosphorus, and 200 lb. of fat.

Deducting the value of the materials that are in meat and bone scrap but not found in vegetable proteins, which Dr. Wilder said equaled $38 on the late September market, from the price of $115 ton for meat and bone scrap, the cost of 1,000 lb. of protein amounts to $77. Dr. Wilder cited the quotations in the Sept. 29 issue of Feedstuffs as the basis of his calculations.

The proteins in meat scrap and tankage contain all of the 10 amino acids that are essential in nutrition, Dr. Wilder said. The vitamins in these animal proteins are one of the big reasons why animal protein concentrates gave such good feeding results in the days before these vitamins were discovered and made available in concentrate form to the feed trade. Dr. Wilder summarized by saying the evidence indicates that animal protein has a place in modern rations when "we consider the cost, the nutrients we get in these feed concentrates and the results they give when they are used properly."

Trace Minerals

Dr. A. L. Moxon, Ohio Agricultural Experiment Station, discussed trace minerals in animal feeding. There are 13 elements which have been found to be essential to one or more species of animals, he said—sodium, chlorine, calcium, phosphorus, potassium, magnesium, sulfur, iron, copper, cobalt, iodine, manganese and zinc. Copper, cobalt, iodine, manganese and zinc usually are included in the "trace element" group.

There are other elements which usually are found in animal tissues in trace amounts, but they have not been proven to be essential for animal life. This group includes such elements as silicon, lead, arsenic, molybdenum, boron, tin and titanium. The problem of supplying trace elements in proper amounts to farm animals is a complex one, Dr. Moxon stated. Although much work has been done on the functions of the trace elements in plants and animals, there are still many questions unanswered. Knowledge of the biochemical functions and interrelationships of these elements is far from complete.

The ruminant animals, cattle and sheep, are the roughage-consuming animals. In general, roughages contain more of the trace elements than the cereals and oilseed crops. Cattle and sheep will, therefore, do well without additional trace elements, except in the iodine-deficient areas or the "goiter belt" and in the cobalt-deficient areas, Dr. Moxon said.

Hogs are fed very little roughage and consume more of the feeds which are low in trace minerals. This is especially significant when hogs are fed the vegetable proteins in large amounts with little or none of the animal protein feeds. Iodine is essential for hogs and needs to be supplied in the salt or mineral mixtures for hogs in the goiter areas to prevent losses. Poultry require such trace minerals as iodine, iron, copper and manganese, Dr. Moxon pointed out.

Dairy Calf Feeding

Much attention has been given by research workers to the problem of how to substitute for whole milk in the ration of the calf between birth and the development of the rumen, according to Dr. J. W. Hibbs, Ohio Agricultural Experiment Station, who spoke on the subject of "Milk Substitutes in Dairy Calf Feeding."

When the calf is born, the rumen is relatively small in comparison with the abomasum or true stomach and the calf can be regarded as a non-ruminant. The period of conversion of the young calf to a full fledged ruminent is, nutritionally speaking, a most critical period, Dr. Hibbs stated. Thus, it is necessary to feed either whole milk or some substitute containing all the nutrient requirements of the calf while the rumen is developing.

In recent years, investigations in calf nutrition at the Ohio station have centered around the development of a high roughage system of raising calves based on the early development of rumen function. In this system an attempt is made to provide conditions which are suitable for efficient bacterial digestion of roughage in the rumen. Direct transfer of cud material from older cattle to the young calf several times during the first few weeks has been found to provide a reliable early source of rumen micro-organisms, Dr. Hibbs said. This is especially indicated where calves are isolated from older cattle in the herd.

Dr. W. J. Tyznik, department of animal science, Ohio State University, discussed the effect of roughage intake on the fat content of milk.

"The economic importance of the dairy cow is due largely to her ability to convert coarse, fibrous material into human food more efficiently than any other animal," Dr. Tyznik said. "Her digestive system is an important factor in her ability to consume a large quantity of roughage and digest its fibrous components into simple materials which are readily absorbed and metabolized.

"If cows are allowed to eat normal quantities of roughage free choice, they will eat about 30 lb. of hay a day while producing about 60 lb. of

(Continued on page 54)

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N.W. FEED ASSOCIATION COMMITTEES APPOINTED

MINNEAPOLIS—John W. Zipoy, Pillsbury Mills, Inc., president of the Northwest Feed Manufacturers Assn., has announced the following committee assignments for the organization during 1951-52:

Program: P. H. Knowles, General Mills, Inc., chairman; Albert A. Teeter, Jr., Industrial Molasses Corp.; George H. Waddick, St. Cloud (Minn.) Milling Co.

Reception: John M. Strate, Minnesota Linseed Oil Co., and Ted Nelson, Union Bag & Paper Corp., co-chairmen; Dwight L. Kopperud, Newsome Commission Co.; Clyde H. Kennedy, Archer-Daniels-Midland Co.; W. P. Schmoll, Patten Kindstrom Co.; Russell E. Asper, Cereal Byproducts Co.; Charles W. Meyer, Ward Feed Co.; Thomas Murphy, Pillsbury Mills, Inc.; W. E. Lingren, Feedstuffs; E. J. Lang, Ralston Purina Co.

Christmas Party: L. O. Hauskins, Nutrena Mills, Inc., chairman; L. H. Patten, Patten Kindstrom Co.; George H. Waddick; A. H. Roffers, Northwest Cooperative Mills, Inc.; H. C. Cowan, Spencer Kellogg & Sons, Inc.

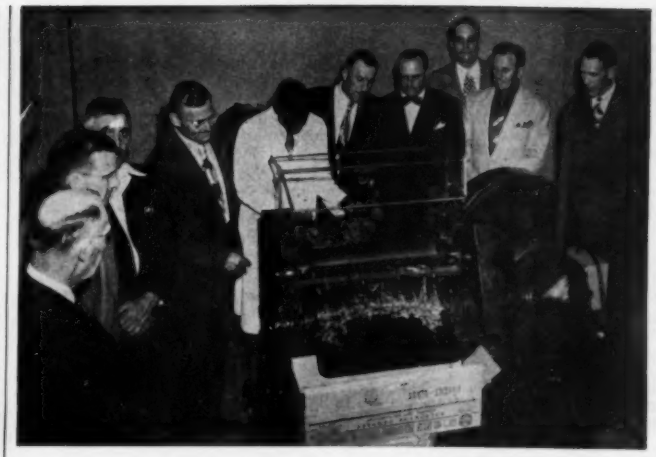
Membership and Attendance: S. D. Horton, Horton-Earl Co., and Joe Jacoby, Thompson-Hayward Chemical Co., co-chairmen; D. A. Clark, Bemis Bro. Bag Co.; David H. Murch, Wayne Fish & Co.; C. A. Scott, Merck & Co.; Ivan Scanlan, Ivan Scanlan & Co.; Wallace J. Kraft, Chas. Pfizer & Co., Inc.; L. O. Kindstrom, Patten Kindstrom Co.; James A. Watson, Blatchford Calf Meal Co.

University Fellowship: Wayne Fish, Wayne Fish & Co., chairman; Don Swanson, Blomfield-Swanson Brokerage; Louis C. Perlman, Jr., Levens Milling Co.; S. E. Gordinier, Russell-Miller Milling Co.; C. A. Johnson, Land O' Lakes Creameries, Inc.

University Short Course: C. A. Scott and Harvey E. Yantis, Feedstuffs, co-chairmen; Albert Gustaveson, Lederle Laboratories; J. W. Hayward, Archer-Daniels-Midland Co.; R. M. Edstrom, Farmers & Merchants Milling Co.; J. Wesley Nelson, Nutrena Mills, Inc.

Golf Outing: E. H. Leitte, E. H. Leitte Co., and J. C. North, Nutrena Mills, Inc., co-chairmen; Howard Gulden, Howard Gulden Co.; John Pierson, Russell-Miller Milling Co.; George H. Christian, Chase Bag Co.; George W. Smith, Archer-Daniels-Midland Co.; Michael W. Sandler, Midwest Burlap & Bag Co.; Richard H. Newsome, Newsome Commission Co.; D. W. Ryan, Excelsior Milling Co.; L. M. Bergford, Cutler-Magner Co.

Ralph B. Latchaw, Nutrena Mills, Inc., was named delegate to the Minnesota Poultry Industry Council, and Clyde H. Hendrix, Pillsbury Mills, Inc., delegate to the American Feed Manufacturers Assn. H. G. Cowan was appointed auditor, and Milton B. Kihlstrum, Feedstuffs, was put in charge of association publicity.



LABORATORY VISITORS—Members of the American Dehydrators Assn. are shown above while on a visit to the Western Regional Research Laboratory, Albany, Cal. They inspected experimental rolls for the crushing of alfalfa, separating it into juice and fiber. C. W. Murray, in charge of the alfalfa section of the laboratory, is standing to the right of the man operating the machine (in the white laboratory coat). (A special alfalfa section is carried in this issue of Feedstuffs following page 34.)

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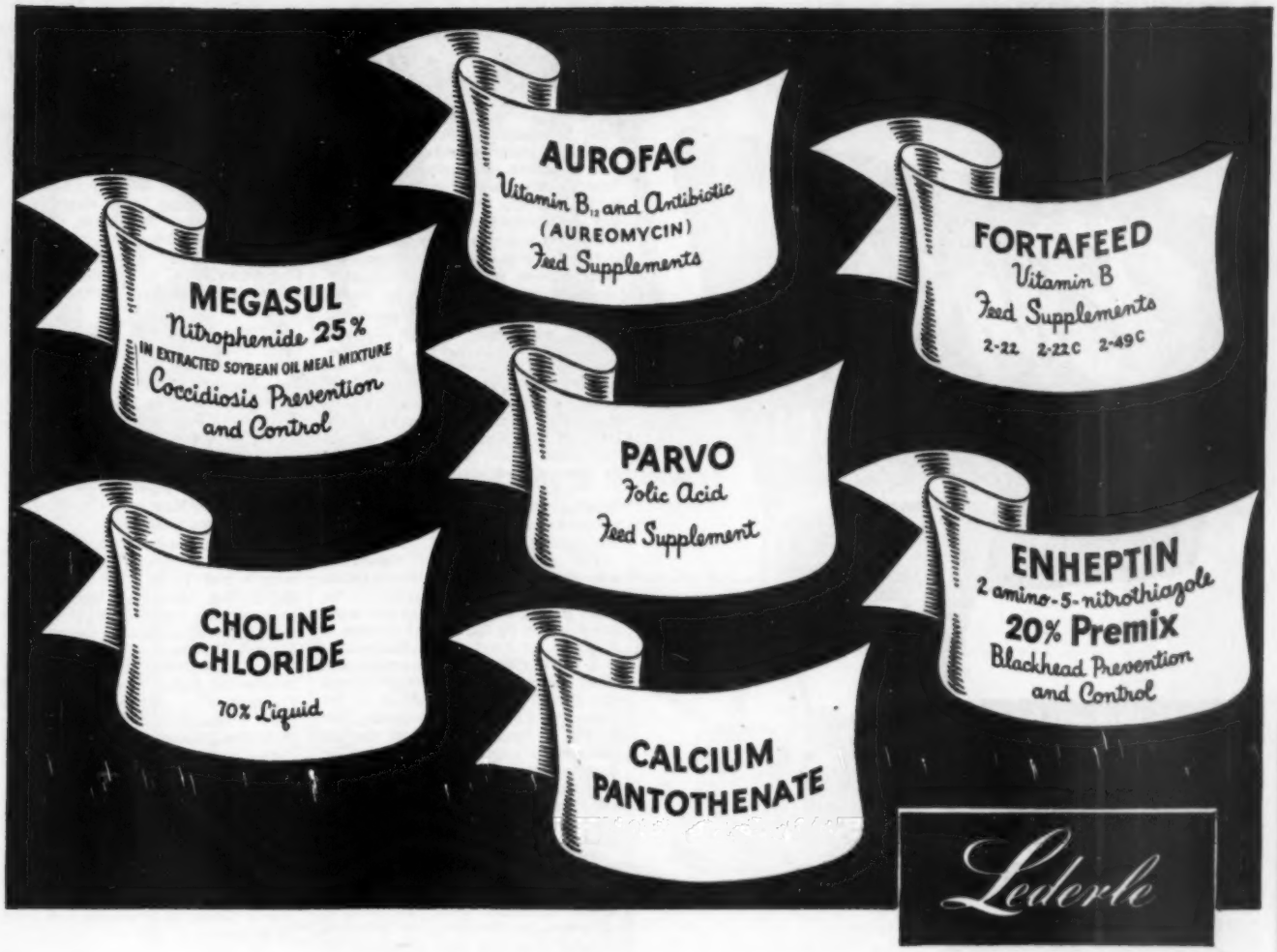

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Three basic contributions to such a goal are *highly efficient feed utilization*, which produces faster growth and sturdier health; *prevention of disease*, which definitely builds profits; and *control of disease*, which holds losses from death and stunting to a minimum. *The products named here contribute to all three of these results.* By their use in commercial feeds, manufacturers, farmers and the consuming public profit.

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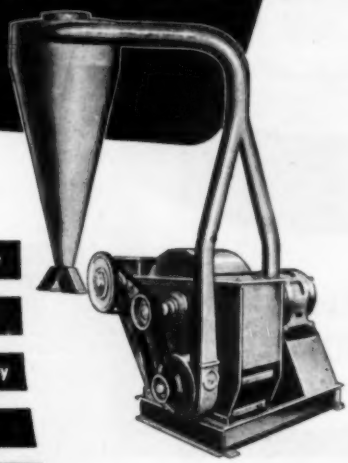

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Feed Manufacturers Sponsor Study of "Crazy Chick Disease"

CHICAGO — The Storrs Agricultural Experiment Station has begun a research study of field encephalomalacia in chicks, more commonly called "crazy chick disease," as the result of a feed industry grant to the University of Connecticut.

The grant amounts to $10,000 annually for three years. It represents contributions of 42 feed manufacturers in 23 states across the nation.

Presentation of the first check for $10,000 was made to A. N. Jorgensen, university president, by a special committee representing feed manufacturers who contributed to the research fund. The committee was headed by Walter C. Berger, president of the American Feed Manufacturers Assn., and included Dr. H. Ernest Bechtel, chaiman, Dr. H. L. Wilcke, Dr. E. I. Robertson and Warren Baker, all members of the encephalomalacia committee of the Nutrition Council.

The encephalomalacia committee was appointed by the Nutrition Council earlier this year to consider the most practical approach to the problems caused by the erratic pattern of incidence of crazy chick disease.

A trio of Connecticut scientists will head the Storrs study. They include Dr. Edwin P. Singsen, head of the department of poultry husbandry; Dr. Erwin L. Jungherr, head of the department of animal pathology, and Dr. Lloyd Matterson, associate professor of animal husbandry. The three departments combine the facilities of laboratory study and nutritional research at Storrs.

The Storrs Experiment Station has long been identified with encephalomalacia research. In 1936, the station's scientists were the first to diagnose the disease in the field. The disease also was first produced experimentally at the station by Pappenheimer and Goettsche of the Columbia University College of Physicians and Surgeons when these men worked at Storrs during the summer of 1930.

Encephalomalacia has a high mortality rate among chickens. The disease produces a brain hemmorhage. Reportedly, it is in some way connected with a deficiency in vitamin E, although it occasionally occurs even when no deficiency is present.

Contributors to the encephalomalacia research project are as follows:

Allied Mills, Inc., Chicago; Andersen-Smith Milling Co., San Francisco; Archer-Daniels-Midland Co., Minneapolis; B & D Mills (Grapevine Milling), Grapevine, Texas; The Beacon Milling Co., Cayuga, N. Y.; Burrus Feed Mills, Fort Worth; Chas. M. Cox Co., Boston; Distillation Products Industries, Rochester, N. Y.; Doughboy Industries, Inc., New Richmond, Wis.; Earle-Chesterfield Mill Co., Asheville, N. C.; Eastern States Farmers' Exchange, West Springfield, Mass.

Elmore Milling Co., Inc., Farmingham, Mass.; John W. Eshelman & Sons, Lancaster, Pa.; General Mills, Inc., Minneapolis; J. T. Gibbons, Inc., New Orleans; The Glidden Co., Indianapolis; The Grange Co., Modesto, Cal.; Hales & Hunter Co., Chicago; Illinois Farm Supply Co., Chicago; Jackson Grain Co., Tampa, Fla.; Kasco Mills, Inc., Waverly, N. Y., and Toledo, Ohio; Kentucky Chemical Industries, Inc., Cincinnati.

Lindsey-Robinson & Co., Roanoke, Va.; Maritime Milling Co., Inc., Buffalo; McMillen Feed Mills, Fort Wayne, Ind.; Merrimack Farmers' Exchange, Inc., Concord, N. H.; Moorman Manufacturing Co., Quincy, Ill.; Murphy Products Co., Burlington, Wis.; O. A. Newton & Son Co., Bridgeville, Del.; Osborne - McMillan Elevator Co., Minneapolis; Peter Hand Foundation, Chicago; Pillsbury Mills, Inc., Minneapolis.

The Quaker Oats Co., Chicago; Ralston Purina Co., St. Louis; Russell-Miller Milling Co., Minneapolis; Security Mills, Inc., Knoxville, Tenn.; Spartan Grain & Mill Co., Spartanburg, C. C.; Staley Milling Co., Kansas City; Superior Feed Mills, Oklahoma City; Tioga Mills, Inc., Waverly, N. Y.; Universal Mills, Fort Worth; Yantic Grain & Products Co., Norwich, Conn.

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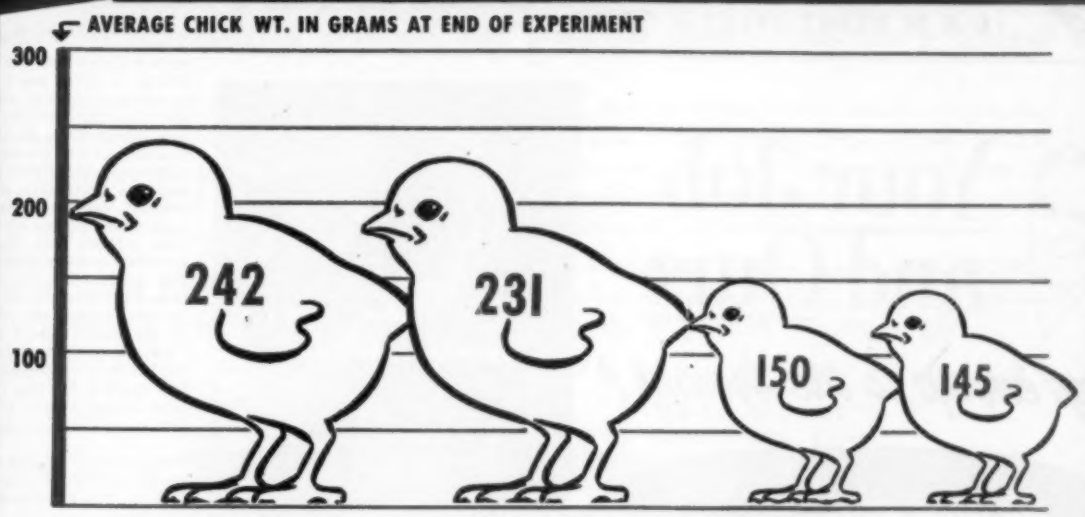

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The chick weighing 242 grams above represents a group of White Leghorn males which were fed a basal ration *plus* SEA PEP Brand Condensed Fish Solubles.

Three other groups from the same hatching were also fed the same basal ration *plus* fish solubles processed after being held 24 hours, 48 hours and 72 hours...resulting in chicks averaging weights of 231 grams, 150 grams and 145 grams respectively.

SEA PEP Brand Fish Solubles is a product processed from the same edible fish caught for canning purposes...refrigerated or processed within hours after being taken from the ocean.

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SEA PEP

1951-52 Corn Supply Estimated 4% Below Last Season's Supply

WASHINGTON—Corn supplies for 1951-52 estimated Oct. 1 at 3,851 million bushels, although the third largest of record, will be 4% below last season due largely to smaller carryover stocks, the U.S. Department of Agriculture states in its quarterly corn market summary.

Stocks of old corn Oct. 1 amounted to 746 million bushels, or about 115 million below a year ago. Disappearance of corn last season dropped 4% below the previous season and totaled 2,961 million bushels.

The 1951 corn crop, estimated Oct. 1 at 3,105 million bushels, is only 26 million less than last year's crop but 275 million less than the 1949 crop. The smaller crop this year is due to smaller yield since the harvested acreage is 1.5% above last year.

Carryover Reduced

Carryover stocks of 746 million bushels of old corn in all positions were the third largest of record. However, they were 115 million bushels less than a year ago, reflecting a disappearance last season in excess of the 1950 crop. Farm stocks of 318 million bushels were a third less than a year earlier and 10% less than the 10-year average. Holding of corn by the Commodity Credit Corporation in its own bins at 315 million bushels were 62 million above a year ago and the largest Oct. 1 stocks of record.

Supplies of corn as grain for 1951-52 based on October indications will total 3,535 million bushels. This is 171 million less than those for 1950-51, 405 million less than for 1949-50 but about the same as for 1948-49. Allowing for a carryover equal to the 10-year average and about the same commercial use as last year supplies of corn remaining for feed during 1951-52 would amount to around 2.7 billion bushels.

Grain consuming animal units to be fed in 1951-52 are currently estimated at 181 million, compared with 176.8 million fed last season and 170.1 fed in 1949-50. Based on these figures, supplies of corn per animal unit would amount to 14.9 bu. for 1951-52 compared with 14.5 bu. fed in 1950-51, 15.9 bu. fed in 1949-50 and 13.7 bu. the 10-year average.

Feeding Heavy

Disappearance of corn last season at 2,961 million bushels was the second largest of record, reflecting heavy feeding and large commercial use. This was 120 million below the 1949-50 season but 259 million above the 1948-49 disappearance. Commercial use of corn increased although exports remained about the same.

Corn prices have not declined seasonally this fall due to shrinking corn stocks, increased livestock numbers and an active demand. At the principal midwest markets corn averaged $1.73 bu. in October or slightly above the summer months. In the three previous seasons October corn prices averaged about 10¢ under the summer months. Prices for the entire season averaged $1.65 bu. last season, compared with $1.35 in the 1949-50 season.

Dr. Walter A. Glista

JOINS CHAS. M. COX CO. — Dr. Walter A. Glista has been appointed an assistant director of research for the Chas. M. Cox Co., Boston. He was chosen to head the nutritional activities at the Wirthmore Research Laboratory and Farm because of his practical knowledge of the poultry industry and his record of achievement while earning his degrees, company officials said. Son of a Massachusetts poultry farmer, Dr. Glista was graduated as a poultry major from the University of Massachusetts in 1947, earned his master's degree at the University of Connecticut in 1948 and completed requirements for his Ph. D at the University of Illinois last August. He was a Navy fighter pilot during World War II.

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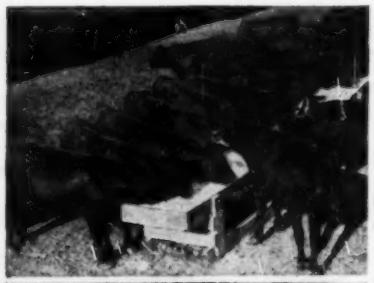

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Use Peebles' M-N-C to improve your livestock and poultry rations for the critical periods . . . *Swine* — gestation, lactation, early growth of baby pigs. *Poultry* — starting, growing, finishing, breeding. *Calves* — early growth and development.

The nutrients from whey and whey products supplied by Peebles' M-N-C contribute to the effectiveness of your rations. These valuable nutrients are required for production of balanced feeds and improve the response from supplementation with vitamin B_{12} and antibiotic activity.

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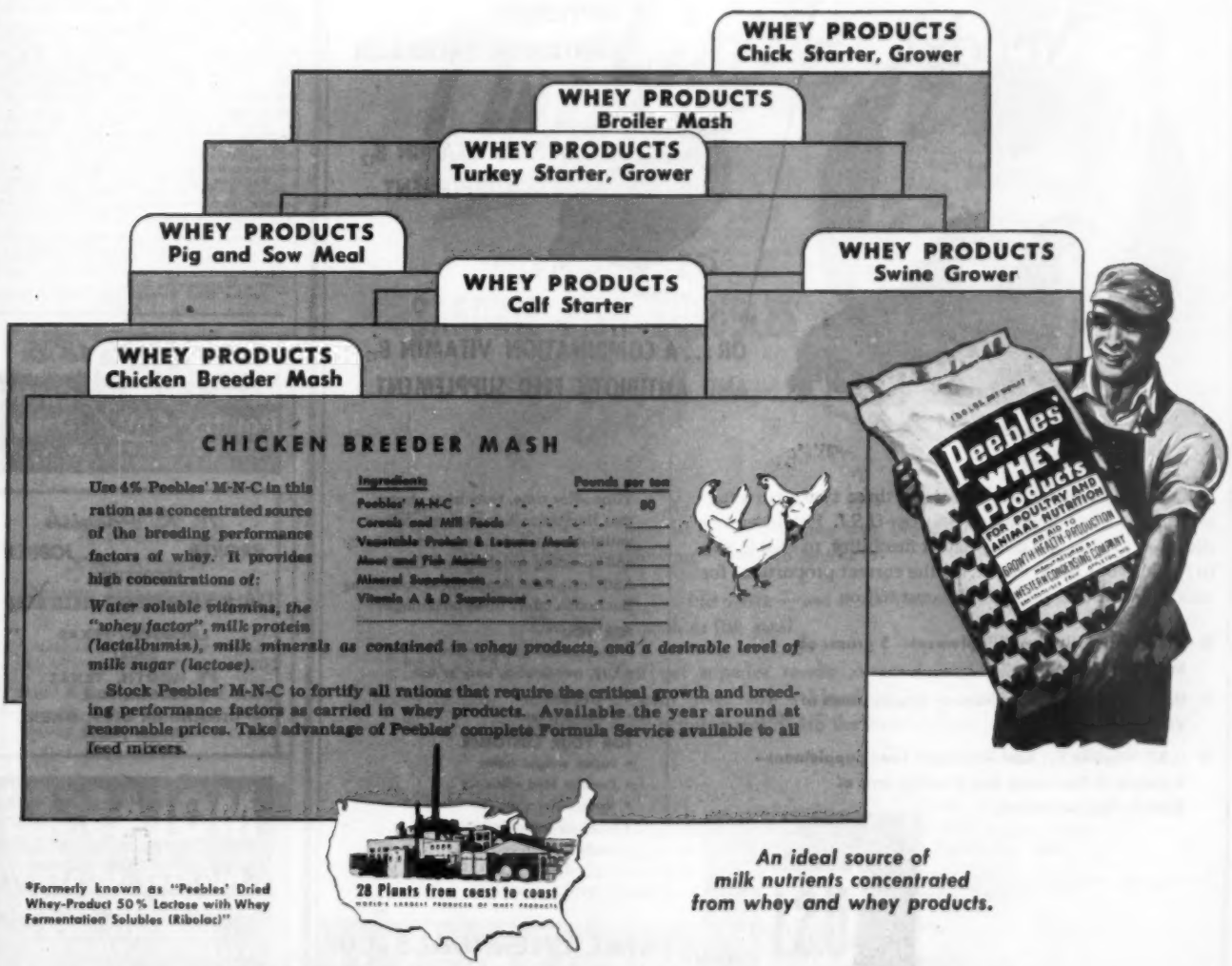
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WHEY PRODUCTS
Broiler Mash
WHEY PRODUCTS
Turkey Starter, Grower
WHEY PRODUCTS
Pig and Sow Meal
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Calf Starter
WHEY PRODUCTS
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CHICKEN BREEDER MASH
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PEEBLES' M-N-C IS BETTER BALANCED . . . A BETTER BUY FOR FEED MIXING

Planning of Model Mill at Feed School Progresses; Fund Grows

KANSAS CITY—Work is progressing on the complicated task of planning the feed industry model mill that will be constructed at Kansas State College to serve as the working base for the new school of feed technology that is taking shape at that institution.

The feed industry technical committee is working on plans for the building and the machinery, and it is expected that their recommendations will be ready shortly for transmittal to the state engineers and architects whose job it will be to put the plans into blueprint form for building.

As soon as the industry proposals are integrated with the architectural detailed work, the building program will take shape and the funds being collected from the feed industry for this purpose will be put to work.

The technical committee that is collecting and preparing the industry recommendations is composed of John J. Vanier, Gooch Feed Mills, Salina, as chairman, and the following members: machinery plans, John Darcy, Quaker Oats Co., Chicago; Donald English, Ralston Purina Co., St. Louis; D. V. McDonald, Nutrena Mills, Minneapolis; Elmer Winterscheidt, Winterscheidt Grain & Feed Co., Seneca, Kansas, and building plans, Paul Berg, feed mill engineer, Fort Wayne, Ind.

Meanwhile, the fund raising program in the feed industry continues to make progress toward the ultimate goal of $200,000, which represents the amount needed to do an ultra-fine job in mill construction in the size needed by the college.

Contributions now total $136,650, sums received from five new donors giving the fund a boost of $2,100 in recent weeks. New donations came from five different states, and altogether more than 30 states have now participated in contributing the funds for the school.

Contributions in the past few weeks are shown in the table below. Donations should be sent to Maurice Johnson, Feed Technology School Advisory Committee, Staley Milling Co., Kansas City 16, Mo.

Carey Salt Co., Hutchinson, Kansas	**$300**
Chemical Packaging Corp., Savannah, Ga.	**300**
Farm Bureau Milling Co., Hammond, Ind.	**500**
Lipscomb Grain & Seed Co., Springfield, Mo.	**500**
National Distillers Products Corp., New York	**500**
Previously reported	**134,550**
Grand total	**$136,650**

Contributions previously reported are as follows:

Allied Mills, Inc., Chicago, $3,000; Ames-Harris-Neville Co., San Francisco, $100; Arcady Farms Milling Co., Chicago, $3,000; Archer-Daniels-Midland Co. and Commander-Larabee Milling Co., Minneapolis and Kansas City, $2,000; Ashcraft-Wilkinson Co., Atlanta, $100.

B & D Mills, Grapevine, Texas, $35; B. W. Bailey & Co., Montpelier, Vt., $200; William Lee Bailey, Topeka, Kansas, $140; Batchellor's, Inc., Sioux Falls, S.D., $50; Beacon Milling Co., Cayuga, N.Y., $1,000; Bemis Bro. Bag Co., St. Louis, $2,000; Blatchford Calf Meal Co., Waukegan, Ill., $1,000; Bruce Milling Co., Kansas City, Kansas, $100; Burrus Mills, Inc., Dallas, $1,250.

Calcium Carbonate Co., Chicago, $500; Cameron Feed Mills, North Little Rock, Ark., $500; Central Soya Co., Ft. Wayne, Ind., $2,500; Chase Bag Co., Chicago, $3,000; H. K. Cochran Co., Little Rock, Ark., $300; Colorado Milling & Elevator Co., Denver, $1,000; Columbia Quarry Co., St. Louis, $500; Commander-Larabee and Archer-Daniels-Midland Co. (see above); Consumers Co-operative Assn., Kansas City, $2,000; Co-operative Grange League Federation Exchange, Buffalo, $1,500; Commercial Solvents Corp., Terre Haute, Ind., $3,000; Corn Industries Research Foundation, $3,000; Chas. M. Cox Co., Boston, $2,000; O. A. Cooper Co., Humboldt, Neb., $1,000; Co-operative Mills, Baltimore, Md., $1,000; Crete (Neb.) Mills, $1,000.

Dannen Mills, Inc., St. Joseph, Mo., $1,000; Darragh Co., Little Rock, Ark., $500; George H. Davis, Kansas City, $500; Dawes Mfg. Co., Chicago, $500; Derby Grain Co., Topeka, Kansas, $200; Dixie Grain Co., Shelbyville, Tenn., $50; Dreyer Commission Co., Kansas City, $200; Doughboy Industries, Inc., New Richmond, Wis., $500; Dow Chemical Co., Midland, Mich., $500.

Rudy Eschenheimer Co., Chillicothe, Mo., $300; John W. Eshelman & Sons, Lancaster, Pa., $1,000; Elk Valley Alfalfa Mills, Independence, Kansas, $100.

Farmers & Mfrs. Beet Sugar Assn., Saginaw, Mich., $500; Farmers Cooperative Asan., Brewster, Kansas, $200; Farmers Mutual, Inc., Durham, N.C., $250; Faultless Milling Co., Springfield, Ill., $100; Feed Age, New York, $100; Feed Bag, Milwaukee, $100; Feedstuffs, Minneapolis, $100; Fernando Valley Alfalfa Milling Co., Van Nuys, Cal., $50; Fox Co., Newfield, N.J., $250.

General Mills, Inc., Minneapolis, $5,000; Golden Eagle Milling Co., Petaluma, Cal., $250; Gooch Feed Mills, Lincoln, Neb., and Salina, Kansas, $10,000; J. T. Gibbons, Inc., New Orleans, $200; The Glidden Co., Chicago, $600; Grain Processing Corp., Muscatine, Iowa, $500.

Hales & Hunter Co., Chicago, $2,500; Hammond Bag & Paper Co., Wellsburg, W. Va., $250; Honeggers' & Co., Inc., Fairbury, Ill., $1,000; Hubbard Milling Co., Mankato, Minn., $750; Humboldt Elevator Mills, Humboldt, Kansas, $200.

Illinois Farm Supply Co., Chicago, $1,000; International Minerals & Chemical Corp., Chicago, $1,000; Iowa Farm & Home Register, Des Moines, $500.

Kansas Soya Products, Inc., Emporia, $500; Kasco Mills, Toledo, Ohio, and Waverly, N.Y., $2,000; Percy Kent Bag Co., Kansas City, $1,000; Key Milling Co., Clay Center, Kansas, $250; King Midas Feed Mills, Minneapolis, $500; M. D. King Milling Co., Pittsfield, Ill., $35; Max Katz Bag Co., Indianapolis, $50.

Lauhoff Grain Co., Danville, Ill., $500; Lederle Laboratories, American Cyanamid Co., New York, $5,000; Limestone Products Corporation of America, Newton, N.J., $100; Lindsey, Robinson & Co., Roanoke, Va., $500.

Maritime Milling Co., Buffalo, $1,000; Merck & Co., Rahway, N.J., $3,000; Merrimack Farmers Exchange, Inc., Concord, N.H., $100; Harold A. Merrill, Kansas City, $500.

Nutrena Mills, Inc., Minneapolis, $3,500; National Alfalfa Dehydrating & Milling Co., Lamar, Colo., $300; Nopco Chemical Co., Harrison, N.J., $100; N. W. Retail Feed Assn., Minneapolis, $50.

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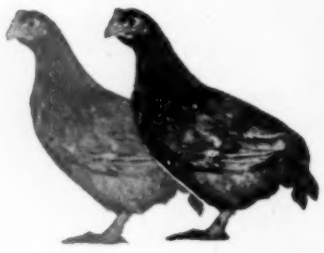

OR... A COMBINATION VITAMIN B_{12} AND ANTIBIOTIC FEED SUPPLEMENT

Whichever fits your needs best, all three types are available from one dependable source—*U.S.I.* Potencies are designed to give you the greatest flexibility, to enable you to fortify your feeds in exactly the correct proportions for maximum results at minimum cost to you ...

- **U.S.I. Antibiotic Feed Supplement— 5 grams of *Bacitracin* per pound**
- **U.S.I. Vitamin B_{12} Supplement—6 milligrams of Vitamin B_{12} per pound**
- **U.S.I. Vitamin B_{12} and Antibiotic Feed Supplement— 3 grams of Bacitracin and 3 milligrams of Vitamin B_{12} per pound.**

Time after time, tests have shown that Bacitracin is superior to other antibiotics in increasing feed efficiency and speeding weight gains. U.S.I. Antibiotic Feed Supplement containing Bacitracin offers these advantages—

FOR YOU
- Guaranteed potency
- Dry, free-flowing, easy to mix
- Economical
- Pleasant odor

FOR YOUR CUSTOMER
- Faster weight gains
- Greater feed efficiency
- More uniform growth
- Lowered mortality
- Improved carcass quality

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers Products Corporation
60 East 42nd St., New York 17, N. Y.
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$300; Oyster Shell Products Co., St. Louis, $500.

Pacific Molasses Co., Ltd., San Francisco, $2,000; Pacific Processing Co., Los Angeles, $1,000; J. P. Parks Co., Kansas City, $2,000; Pay Way Feed Mills, Inc., Kansas City, $250; Peterson-Biddick Co., Wadena, Minn., $100; Chas. Pfizer & Co., Inc., Brooklyn, $3,000; Pillsbury Mills, Inc., Minneapolis, $3,000; Pioneer Bag Co., No. Kansas City, $1,000.

Quaker Oats Co., Chicago, $5,000.

Ralston Purina Co., St. Louis, $10,000; Ryde & Co., Chicago, $200.

Joe Schafer & Sons, Springfield, Ill., $100; Schenley Distillers, Inc., Cincinnati, $500; Schultz-Baujan & Co., Beardstown, Ill., $1,000; Schreiber Mills, Inc., St. Joseph, Mo., $1,000; Seaboard Mfg. Corp., Richmond, Va., $250; Security Mills, Knoxville, Tenn., $1,000; Shawnee Milling Co., Shawnee, Okla., $500; Shellabarger Feed Mills, Salina, Kansas, $250; W. J. Small Co., Neodesha, Kansas, $500; Southland Cotton Oil Co., Paris, Texas, $200; Southwest Cooperative Wholesale, Phoenix, Ariz., $250; Spartan Grain & Mill Co., Spartanburg, S.C.; $500; Spencer Kellogg & Sons, Inc., Buffalo, $1,000; Staley Milling Co., Kansas City, $2,500; Stone Mountain Grit Co., Lithonia, Ga., $250; Sunset Feed & Grain Co., Buffalo, $200; Superior Feed Mills, Oklahoma City, $1,500.

Topeka Mill & Elevator Co., Topeka, Kansas, $500; The Tommy Thompson Co., Ft. Worth, Texas, $50.

Ubiko Milling Co., Cincinnati, $500; United Mineral Co., Omaha, $500; United Co-operative Farmers, Inc., Fitchburg, Mass., $100; Ultra-Life Laboratories, East St. Louis, Ill., $500; Uncle Johnny Mills, Houston, Texas, $250; Unity Feeds, Boston, $250; Universal Mills, Ft. Worth, Texas, $1,000; Urbana (Ohio) Mills Co., $300.

Van Camp Laboratories, San Pedro, Cal., $100; Vitamins, Inc., Chicago, $250; Vitality Mills, Chicago, $1,000.

Hiram Walker & Sons, Detroit, $500; Waterloo Mills, Waterloo, Iowa, $100; H. K. Webster Co., Lawrence, Mass., $1,000; J. F. Weinmann Milling Co., Little Rock, Ark., $300; Wendland Grain Co., Temple, Texas, $200; Wortham Bag Co., Nashville, $1,000; Western Condensing Co., San Francisco, $1,000; Wilbur-Ellis Co., San Francisco, $250; R. S. Wilson Co., Los Angeles, $100; Winterscheidt Grain & Feed Co., Seneca, Kansas, $500; L. C. Worth Commission Co., Kansas City, $200.

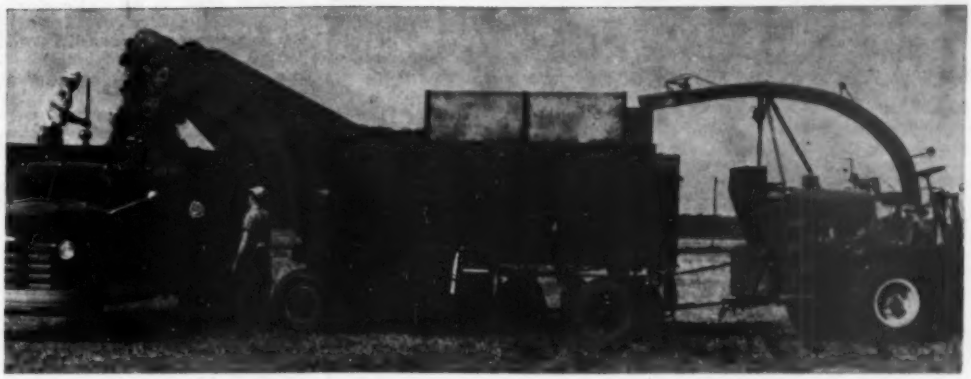
Texas Officials Plan Restrictions on Corn Shipments

FT. WORTH—A state regulation requiring fumigation or screening of all corn, grain sorghums and broom corn shipped into Texas is under consideration by officials of the state department of agriculture. The action is aimed at control of the corn borer.

The corn borer is not prevalent in Texas and that state is the only one which can ship corn and grain sorghums to California without screening or fumigation under the California regulation for control of this pest. Occasionally corn and sorghums shipped into Texas from northern states will go into elevator storage there and later be reshipped to California with Texas freight billing. California authorities apparently have objected to this possible loophole in their protective system.

As a result of a meeting in Ft. Worth last week of state authorities and representatives of the grain trade, a committee of grain men was appointed to work out a solution for the problem and consult later with department officials at Austin.

The cost of fumigation or screening would run from $15 to $25 a car, trade reports indicate, and because of the extra time and labor required a considerable number of shippers would be eliminated from trading in these grains with Texas. Business probably would be limited to firms having elevators and a sufficient volume of Texas trade to justify the extra handling.



HARVESTING—A new method of handling the harvesting of alfalfa is shown in this picture. From the field chopper on the right, the alfalfa is blown into a "live bottom" trailer, which discharges its load mechanically into a truck. In this system the trailer remains attached to the harvester set-up instead of being hauled away when filled and replaced by an empty truck. (Other pictures and articles on the alfalfa dehydrating industry and the American Dehydrators Assn. appear in a special section of this issue of Feedstuffs following page 34.)

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QUALITY GOES IN BEFORE THE NAME GOES ON

USE LOW COST...
Drifisol
CONDENSED
SARDINE FISH SOLUBLES
Plus

CONVENIENT . . . 50 lb. multi-walled bag. No odor in storage. Dry—free-flowing—easy to handle.

ECONOMICAL . . . No waste—use it all. Uniform mixing. Use half as much as fish meal.

EFFICIENT . . . You get superior results at condensed fish soluble levels because Drifisol gives you a blend of other animal proteins PLUS Vitamin B-12 supplements PLUS the Antibiotics!

Other Exclusive Products . . .

MyTMix—High Potency Vitamin Pre-mix
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Company.....
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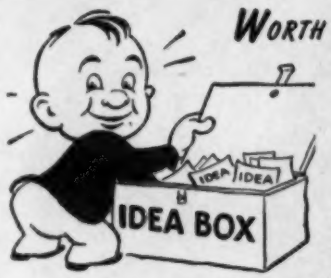


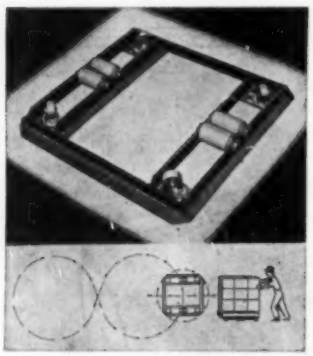
WORTH LOOKING INTO . . .

NEW PRODUCTS • NEW SERVICES • NEW LITERATURE

A reader service feature announcing the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Further information on any of the items discussed in this department may be obtained by writing the Reader Service Department of FEEDSTUFFS 118 So. 6th St. Minneapolis, Minn.

No. 2306—Pallet Roller

The Frank L. Robinson Co. has announced a newly-designed "Ace Swivel" pallet roller, which is built to roll a load in any direction. According to specifications issued by the firm, the frame is constructed of high tensile



strength steel, fully welded; the design retains parallelism and alignment of frame; the rolls, bearings and casters are of heavy-duty construction.

Other features of the product, and of other types of pallet rollers made by the firm, are described in a folder, which is available on request. Circle No. 2306 and forward the coupon to Feedstuffs.

No. 2308 Animal Health Products

Chas. Pfizer & Co., Inc., has announced the release of three new veterinary products containing antibiotics. The company is offering terramycin ointment for udder infusion in cattle, and "Combiotic P-S" and "Pronapen"—both for injection into animals. The terramycin ointment, to be used in combating bovine mastitis, is being marketed in 7.1 gm. tubes with each gram of the ointment containing 60 mg. of the antibiotic.

Combiotic P-S veterinary is being offered in vials containing 300,000 units of procaine penicillin G, 100,000 units of sodium penicillin G buffered with sodium citrate and one gm. of dihydrostreptomycin sulfate. The medication, which is stable in the dry state for 18 months, is recommended by the firm for treatment of animals suffering from mixed bacterial infections.

Pronapen veterinary, for intramuscular injection in aqueous solution, is offered in vials of four million units of penicillin. When 8.2 cc. of pure distilled water with 5% dextrose or saline is added to the vial contents, the resulting solution contains 300,000 units of procaine penicillin G and 100,000 units of sodium penicillin G per cc., according to the firm. It recommends Pronapen veterinary for use against such organisms as streptococci, staphylococci, corynebacteria, clostridia, and Actinomyces bovis, and against such diseases as anthrax, erysipelas and leptospirosis. For more information circle No. 2308 and mail the coupon to Feedstuffs.

No. 2314—Booklet on Warfarin

The Prentiss Drug & Chemical Co., Inc., has issued an illustrated booklet describing Prentiss Warfarin Concentrate, an anticoagulant rodenticide, sold under the trade name, "Rax Powder". The concentrate is used for the preparation of ready-to-use baits and rodenticides.

The new booklet gives facts about the new product, from its discovery in the laboratories in the University of Wisconsin through its testing stage. Its chemistry, killing action and relative slightness of risk to handlers are discussed. The booklet also describes the potential farm market, label instructions, how pest control operators and others can use the product, as well as other items of interest in connection with it. For more information circle No. 2314 and mail the coupon to Feedstuffs.

No. 2309—Pump Bulletin

Performance data and dimensions for the various types of package pumps for a wide range of fractional horsepower applications are supplied in a new bulletin, "Allis-Chalmers Package Pumps," now available. The pumps are available in four types—open and closed impeller close-coupled, pedestal mounted, and open impeller vertical mounting. Capacities to 80 g.p.m. at heads to 100 ft. are described in the bulletin. For more information circle No. 2309 and mail the coupon to Feedstuffs.

No. 2310—Broiler Manual

McMillen Feed Mills has issued a 60-page management manual for broilers, which includes late information on broiler-type birds and their breeding, feeding and management. The well-illustrated manual was written and edited by experts in the nutrition field, and it contains tips for better-paying production of broiler meat for today's market, the firm states. For more information circle No. 2310 and mail the coupon to Feedstuffs.

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

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No postage stamp necessary if mailed in the United States

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CLIP OUT — FOLD OVER ON THIS LINE — FASTEN (STAPLE, TAPE, GLUE) — MAIL

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118 South Sixth St., Minneapolis 2, Minn.

Please send me information on the following items (circle numbers)

No. 2306—Pallet Roller
No. 2308—Health Products
No. 2309—Pump Bulletin
No. 2310—Broiler Manual
No. 2314—Booklet on Warfarin

NAME.....

COMPANY.....

ADDRESS.....

EXCHANGE PARTY—The Los Angeles Grain Exchange recently gathered at the Inglewood Country Club to honor Ted Cameron, in charge of the Los Angeles Federal-State Market News Service for 22 years. Following a golf meet, Mr. Cameron received a desk set and a guest book, signed by all of those attending, from John Campbell, president of the exchange. Some of those present at the meet were: (1) Mr. Campbell and Mr. Cameron. (2) Clarence Flammer, Gordon Suess, Gail McDowell and Mr. Cameron. (3) Mr. Suess, Kenny Dickens, Forrest Corzine and Rolly A. Blume of the entertainment committee. (4) Cass White, W. R. Brown, Mr. Dickens, Don Harris, Mr. Suess, Mr. Corzine and (seated) Mr. Cameron. (5) Tom Chrysler, Bob Stine, Bob Ingold, and (seated) Art Lundin and Mr. Corzine. (6) Bob Morgan, Jim Norwood, Karl Mahar. (7) Raoul Levy, Bob Penk, Cass White, Vic Arends. (8) Mel Beuther, Spike Nelson, Harry Snow and Jack Flammer. (9) Ted Miller, Herb Auerback, Leo Viault and Loren Lindamood.

Sales Calendars Help Boost Business Through Planned Merchandising

★

By Edgar Gleason

THE chances are that every feed dealer has one or more calendars in his office and hanging on the store or mill walls. The alert feed dealer sends out calendars to his customers once a year, because calendars are a handy item in business and at home. The feed dealer consults his calendar daily in many instances in planning his business, in checking this or that event or program.

But there is another type of calendar which successful retailers use and which fits into a good feed dealer's program. I refer to a sales or merchandising calendar.

This type of calendar is divided into months, but it does not show all the dates, except those on which merchandising events are planned.

The alert feed dealer sets up his sales calendar for a year in advance. He does this by knowing what his business did the previous year and what he anticipates it will do during the coming year. He finds, as he studies his business, that certain sales promotions are natural for certain seasons of the year and he marks these under the proper month. Then, when the entire calendar is completed, he can see if there are some months where planned merchandising activities are too light or too heavy.

There are a number of opportunities that can be utilized through a sales calendar.

1. Better buying. As a dealer studies his merchandise calendar, he can look ahead and buy early and wisely. He will be able to make the necessary investigations when buying in advance on some items, something that he cannot always do when he decides to put on a sales promotion on the spur of the moment, as some merchants do.

2. Advertising. Special advertising can be developed through a merchandising calendar. Ideas for layout can be gathered in advance. You can notify your newspaper publisher that you want this or that type of mat service and he will then have the time to get it for you and work up your ads in advance. Newspaper ad men, as well as other business men, do better work when they have enough time to think an idea through thoroughly.

3. Special sales promotion. If the merchandising activity which you have planned for a certain month is listed on your calendar you will have time to explore certain promotional angles through advertising men, salesmen and others. Then when the time comes to stage this merchandising event you have the material you want in your files and can get it into action.

4. Sales training. If you have a sales training program, the merchandising calendar will show you when to begin special training for this or that sales event. Thus you will be able to train your employees in time for the sales promotion which can mean extra dollars in the cash registers. If special merchandise features need explaining and demonstrating, it can be done prior to the sale, even if it means getting special representatives from a manufacturer or supplier. These representatives are scheduled far ahead, but if you have a merchandising calendar you can send in your request for aid far enough in advance to insure getting it.

5. Something to shoot at. The merchandising calendar gives you a well-rounded yearly program of sales activities intended to increase your volume and profit. There is no need to improvise merchandising activities from month to month, or when there is a sudden sag in volume. Covering a yearly basis, the merchandising calendar usually keeps you and your staff busy promoting business every month of the year and prevents any sudden trade sags.

Furthermore, when the feed dealer looks over a completed merchandising calendar, he can easily spot any weakness in the yearly plan. He can see where it is weak and begin to strengthen it. It is a plan for operating a business which gives any retailer an added sense of security.

6. Advice angle. Suppose you are asking a supplier's salesman in whom you have confidence how he thinks you can increase your sales and profit. If he doesn't know all your merchandising plans for the year he may not be able to give you the advice needed for your business. But if you can show him a merchandising calendar, he can digest it in a short time and get a clear picture of your merchandising accomplishments and your needs. This calendar also will be valuable on the same basis when you discuss your merchandising program with other qualified persons.

7. Record angle. The feed dealer who maps out and uses a merchandise calender will find that it is an easy step from this point to detailed records about the effectiveness of merchandising policies month by month. Making records like this will prove invaluable to the dealer when he begins to make his second annual merchandising calendar. He will have many valuable facts to go on—not guesswork.

8. Simplicity of the task. The making of a merchandising calendar is relatively simple. It can be done in spare time. It charts only the objectives of the business month by month, and the principal means for achieving them. It leaves out a lot of small details. These details come to the surface when the dealer uses the merchandising calendar month by month.

Now in ready supply

Monsanto Choline Chloride

A "must" in the diet of poultry and non-ruminant livestock is choline. Better health and sturdier, faster growth are practically guaranteed when choline chloride is present in prepared feed in the proper amounts.

That's why it will be good news to feed manufacturers that Monsanto's Choline Chloride is now readily available . . . and in two convenient forms:

Monsanto Choline Chloride (70%) Concentrate—in easy-to-handle, quick-to-mix liquid form. Ideal for continuous or pre-mixing. *Really* non-corrosive.

Monsanto 25% Choline Chloride Feed Supplement—a free-flowing choline carrier compounded of non-corrosive concentrate and a nutritious dry absorbent.

In either form, Monsanto Choline meets the highest standards of purity . . . and is absolutely uniform from shipment to shipment. Why not get the full story on this essential diet ingredient right away?

For complete information, write for Monsanto's new booklet, "Monsanto Choline Chloride." The coupon is for your convenience.

MONSANTO
SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY,
Merrimac Division, Boston 49, Mass.

Please send me your free booklet, "Monsanto Choline Chloride."

Name & Title _____

Company _____

Address _____

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USDA Engineering Study Highlights Dehydrating Costs

WASHINGTON — In April, 1950 Leonard G. Schoenleber, agricultural engineer of the U. S. Department of Agriculture, studied the equipment, operation and production problems of 44 representative alfalfa dehydration plants in Kansas, Nebraska and Colorado.

His findings indicated that the investment required in the plants surveyed ranged from $40,000 to $190,000 for each drying drum unit. Average cost of 16 one-drum plants was $95,000 and for 16 two-drum plants, $150,000. This included field machinery, trucks, trailers, plant equipment, buildings and installation. Auxiliary equipment such as self-propelled field harvesters, pellet machinery, meal coolers, dust reclaimers, sifters, blenders, shredders and automatic sack packers account for much of the variation in investment costs.

In addition a minimum cash reserve of from $10,000 to $15,000 per drum unit is needed at the beginning of each season to meet operating expenses.

The acreage required to keep a one-drum unit plant at maximum operation will depend on the growth of the alfalfa. It varies with each cutting. The average in this survey was 550 acres for the first cutting, 600 for the second, 800 for the third and 950 for the fourth.

The average annual output of a one-drum dehydration plant was 2,470 tons of dried alfalfa. The prices paid to growers ranged from $6 to $10 a ton on dry-weight basis for the first cutting and from $10 to $18 for the last cutting.

The total cost of producing a ton of dehydrated alfalfa (including payment for the crop, labor, management, bags, repairs, taxes, interest and depreciation on investment) varied from $27 to $44.50 in the plants surveyed. The average, according to the estimates from 33 plants, was $37.

Labor Costs

Average labor costs in the production of a ton of alfalfa were estimated at $8.28. Exclusive of office help and the manager, the average crew consists of 7, 11, and 15 men for 1-, 2-, and 3-drum plants. A typical seven-man crew includes a mill operator and feeder, two sackers, a field operator, two haulers, and a repair man. The majority of the plants in this survey operate on two 12-hour shifts during the season.

Machinery repairs, particularly in the field, constitute one of the major problems and represent an average of $2.57 in the production cost of a ton of alfalfa meal. This is more than the average cost of natural gas used for fuel ($2.20) and electricity used for power ($1.62).

E. A. McGowen

JOINS GENERAL COMMISSION CO.—E. A. McGowen is now associated with the General Commission Co., Jackson, Miss. Mr. McGowen was formerly sales manager of Valley Mills (mill division, The Merchants Co., Jackson, Miss.) for a period of years.

VOCATRON DISTRIBUTOR

CHICAGO — Seedburo Equipment Co. announces that it has been appointed a distributor of Vocatron, an intercommunication system which requires no wires or installation. The units are simply plugged into regular electrical outlets, and up to five units may be talked and heard over as long as they are on the same electrical circuit. The Vocatron system is designed for instantaneous communication between offices or between warehouse and office and is reported to be receiving wide acceptance in the feed industry.

Hilltop Farm FEED COMPANY
Minneapolis 1, Minn.
Chicago Ridge, Ill.
A COMPLETE LINE OF FORMULA FEEDS FOR LIVESTOCK and POULTRY

SCIENCE REPORT

Science—and Thanksgiving dinner

Research helps bring more turkeys to American tables

TURKEY for Thanksgiving dinner is an American birthright. But the quality and number of birds that reach dinner tables depend on protection provided against the costly poultry destroyer—coccidiosis.

Today, Sulfaquinoxaline—a product of Merck research—has brought poultry growers simple, low-cost ways to *prevent* and *control* outbreaks of coccidiosis in chickens as well as turkeys. Countless millions of birds now have been successfully treated with this new poultry life-saver.

Six years of research were required to perfect Sulfaquinoxaline. Then, Merck solved the complicated problem of producing it in quantity and so enabled feed manufacturers and growers to make practical use of this remarkable development. Sulfaquinoxaline has joined Streptomycin, the Vitamins, and Cortisone a[illegible] Merck research and pro[illegible] better healt[illegible]

This advertisement appears in leading consumer magazines and is part of the Merck program to enhance prestige and promote good will for the feed industry. To the general public, it explains little-known facts on how the supply of turkeys and chickens depends in good measure on effective control of coccidiosis.

Research and Production for the Nation's Health

MERCK & CO., Inc.
Manufacturing Chemists
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THE NAME VICTOR ON FEEDS CEREALS — FLOUR MEANS QUALITY

MILLFEEDS
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ANCHOR GRAIN CO.
LOYD O. SELDERS—Phone: GRand 7377
Board of Trade Bldg., Kansas City 6, Mo.
Member Kansas City Board of Trade

Ray Ewing PRODUCTS
Distributed in Minnesota, North and South Dakota and western Wisconsin *by*
Blomfield-Swanson Brokerage
734 Midland Bank Bldg.
Minneapolis 1, Minn.
QUALITY GOES IN BEFORE THE NAME GOES ON

SCRATCH and SCRAPS

Wife showing new hat to husband: "It didn't cost a thing. It was marked down from $20 to $10, so I bought it with the $10 I saved."

◆ ◆ ◆

"Pa," said little Jimmy, looking up from his homework, "is water works one word or do you spell it with a hydrant?"

◆ ◆ ◆

In the composing room: "Could I have tomorrow off, sir? My wife wants me to help with housecleaning."

Foreman: "No! We're too busy!"

Employee: "Thank you, sir, I knew I could rely on you."

◆ ◆ ◆

"Pop, I need an encyclopedia for school."

"Encyclopedia, hell; you can walk to school like I did."

◆ ◆ ◆

"Say, what's that crawling on the wall?"

"Ladybug."

"Gad! What eyesight!"

◆ ◆ ◆

Waiter: "Mr. Brown left his umbrella again. I think he'd leave his head if it were loose."

Manager: "You're right. I heard him say yesterday he was going to Arizona for his lungs."

◆ ◆ ◆

Joe: "I hear the police have orders to stop petting in the public parks."

Jim: "Good heavens! How long have the police been petting in the public parks?"

◆ ◆ ◆

When the little woman tells you she'll be ready in a jiffy and then keeps you waiting another half hour, you might confront her with this bit of intelligence: "while most people think a jiffy is a moment, an instant, actually it has a precise meaning. Currently science pegs it at 0.00000-0000357 of a second." Looks like the misses will have to use another word —or hurry up.

◆ ◆ ◆

No wonder the little duckling
Wears on his face a frown,
For he has just discovered
His first pair of pants were down.

◆ ◆ ◆

Maybe the woman who knowingly married a burglar merely wanted a husband who was trained to pick up things and be quiet around the house.

◆ ◆ ◆

New Boss: "Have you any letters of reference?"

New Salesman: "Sure, read this."

New Boss: "To whom it may concern: Bill Smith worked for us one week, and we were satisfied."

◆ ◆ ◆

Sign posted on bulletin board at Veteran's Airport, Bloomington, Ind.: "Notice! Absolutely no flying over nudist camp located exactly eight miles SSW on a true course of 190°."

THE FINEST FEEDS
IN THE FINEST BAGS

Doughboy

INDUSTRIES, INC. NEW RICHMOND, WISCONSIN

ANDERSON QUALITY

FOR GREATER PROFITS
BUY BLUE RIBBON
POULTRY
SUPPLIES

Write today for Complete Catalog and Price List
ANDERSON BOX COMPANY INDIANAPOLIS, INDIANA

Superior's Brand

50% Meat and Bone Scraps
60% Digester Tankage
80% Blood Meal

Superior Packing Co.
Nestor 4001
St. Paul 4, Minn.

General Mills
Larro
FEEDS
Farm-tested

keep heads up,
competitively...
with **vitamin E**

ONE GOOD WAY to keep "ahead of the pack" in today's market is to fortify your chick feeds with DPi vitamin E feed supplement.

Two forms of vitamin E are now immediately available for feed use. For mills that prefer to work with a dry material, *Myramix Vitamin E Feed Supplement*, on a base of soybean meal, provides 20,000 International Units of Vitamin E per pound. If you prefer an oil, *DPi Distilled Vitamin E Concentrate* gives you 300,000 International Units of Vitamin E per pound. Both types have as their active ingredient *d*-alpha-tocopheryl acetate. This ester form is used by DPi to assure maintenance of biological potency and chemical stability during storage—tests on feeds we've fortified show 100% stability after as long as six months at 70° F.

As a matter of fact, when you get your vitamin E from DPi you need buy only at the rate your production demands. We will deliver to you the quantities you need on whatever schedule you set up. Both forms come to you in conveniently-handled drums.

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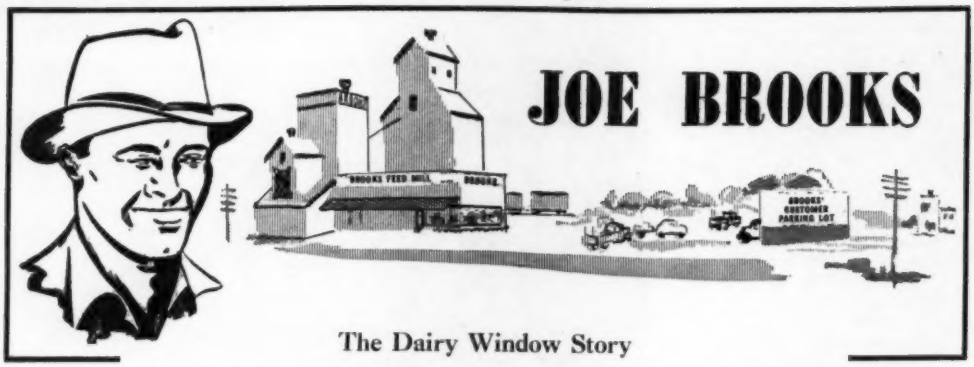

The Dairy Window Story

A MERRY whistle came from Joe Brooks' lips as he walked into his feed mill one morning. Milt Peters winked at Smiley Johnson. "He's got an idea," Milt grinned. "The old whistle is working well."

Smiley nodded. Just like Milt, he knew the signs of mental activity in his employer, and it was always a welcome sign. Joe, with his new and novel merchandising ideas, always provided a little excitement around the feed mill. The employees, too, sparked by Joe's example, gave thought to effective merchandising ideas and often came up with some excellent ones.

It was about an hour later that Milt saw Joe come out of his office with a sketch in his hand. "Oh, Smiley," Joe called, spotting the young fellow who was the store's display expert, "I've got a job for you."

Not only did Smiley come forward, but Milt, Butterball, Windy Kramer and Pop did, too. Curious, they all wanted to see what Joe wanted to promote this time, and a temporary lull in trade enabled them to do a little looking and listening.

"Pete Peterson gave me a testimonial on his dairy herd that's really a dandy," Joe said enthusiastically, "and I want you to work out the window display, Smiley."

The blond employee grinned. "I'll do my best, Joe."

Joe's pencil pointed to the rough sketch. "Pete started testing his cows in 1947, culling them, feeding according to milk production. In 1947 his herd butterfat average was 261. By 1949 it had jumped to 356 due to testing, feeding and culling. In 1950 his herd average was 379 lb. of butterfat. Now what do you think of that?"

"Pete's a real smart farmer," Butterball commented. "And he buys a lot of our dairy concentrate."

"He sure does," Joe stated happily. "I had to work hard to get him on a better feeding program, but he's a whiz for it now. And he has brought us lots of other feed customers from his area, too. Can you make out my display idea, Smiley?"

The blond headed employee nodded. "I think so. You want three sections to this window display. One says 1947, the next 1949 and the next 1950. Each year will be designated with a large sign. Under 1947 you just want a bushel basket of rough feed and a pail of ground feed. Under 1949, you want a scale with a pail of milk weighing on it; the same under 1950. The idea is that feed is not weighed according to production in 1947 but is weighed in 1949 and 1950. The butterfat average for each year is also posted."

"That's it," Joe said. "Then we show pictures of Pete and his herd,

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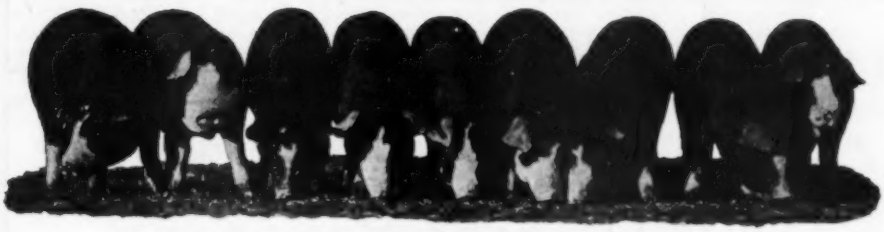

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"Satisfied hog raisers like these tell their friends about Hog-Gain, making it easier to get new feed customers."

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his barn, his milk weighing, his milk testing, etc. Other farmers can see just what Pete has accomplished during that four-year period by following the recommendations of the dairy and feed industry."

"It ought to make a lot of farmers sit up and take notice," Pop Henley said. "Of course, a farmer can't follow Pete's system unless he is willing to keep records of each cow's production and tests. Lots of them don't like to do that sort of thing."

"Maybe not," Joe said seriously, "but most of them like to get the results that Pete is getting. They all know Pete and know he's making good money on his farm. They can be taught how to keep records."

"If Pete has been good enough to let you use his records and pictures on this promotion idea, why can't you get him to agree to a test demonstration some day?" Pop suggested. "We could line up 10 to 20 farmers and visit Pete at milking time. Then we could see just what he does, how long it takes, and if that weighing and taking test samples are as time consuming as some farmers think."

Joe's eyes sparkled. "I think that's a fine idea, Pop. I'll ask Pete. We'll set a date and put a sign in that window display inviting farmers to sign up for that visit. Then we'll also publicize the date in our newspaper advertising and put it in the monthly bulletin."

"If I were a farmer," Butterball said, "and I saw a window display like this one, I would really study it and do some thinking. So far as I'm concerned, a window display like this is much better than one just showing the dairy concentrate."

Joe laughed. "Right, Butterball, but you know that a dealer doesn't get a display idea like this too often. There just aren't that many effective ways of showing what good dairy feed will do. Sometimes the ordinary mass displays have their place, too. I like to give variety to my window displays. Thanks to Smiley's ability and the cooperation of the rest of you, we have some excellent windows. All the dealers in the feed club tell me that, and so do many customers."

"Speaking of variety, Joe. I think that's a wonderful idea." Milt said slowly. "That's why I have a large list of red heads to call on. It gets a little tiring to go out with the same one all the time. By keeping a large list I can date up others now and then and get their viewponits. It's often very exhilarating."

Pop Henley's lips clamped into a tight line. He looked around for a broom, but could find nothing but a small poultry feeding trough. He lifted it high and started after the alarmed and retreating Milt. "Fire me, if you will, Joe," exclaimed Pop, "but I just can't stand the way this fellow is always bringing women into these business discussions. Let's fire him and hire a woman-hater instead!"

(To Be Continued)

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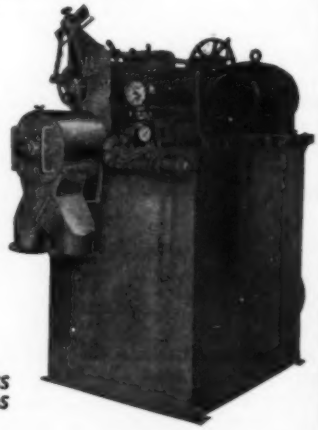

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DECATUR, ILLINOIS — FEED DIVISION — PAINESVILLE, OHIO

CHAMPION—The 1,222 pound grand champion of the state fair of Texas sold to Burrus Feed Mills, Fort Worth, at $2 a pound. Later Burrus returned the steer, renamed Texo II, to the Mason County 4-H Club to show at the International Livestock Exposition in Chicago. Shown with Texo II (left to right): Grady Jones, who bought the steer for Burrus, Dean W. L. Stangel of Texas Technological College, fair cattle superintendent, and Willard K. Jordon, Mason County 4-H boy, who showed the animal.

The Feed Crusade

☆

Join It—Help Promote Better Feeding

By Edward Case

EVERY feed dealer can perhaps remember reading about the Holy Crusades in his history books—when volunteer kings, princes and soldiers from European countries joined in a mighty army to retake the Holy Land from the pagans. The crusaders never accomplished their purpose as such, but they generated a lot of religious enthusiasm and centered much attention on Christianity and its driving force.

There is a crusade going on in America right now, and it has been in progress for many years. Sometimes this crusade is carried out quietly, steadily by thousands of earnest, conscientious workers. It is a crusade which is not achieving its purpose overnight, but there are steady gains year after year, and the total rate of progress over a 20 or 30-year period has been amazing. If the rate of progress is continued, this crusade will accomplish a great deal more in the next decade.

I refer to the crusade of better feeding, without which American agriculture would be in sad shape. This crusade promises much for the future, especially if every man engaged in the feed business lends a helping hand.

Based on Science

The crusade for better feeding is based first of all upon scientific experimentation and findings. It is stacked against man's lazy nature, the hand-in-the-bucket method of guesswork feeding. This crusade for better feeding insists that if you are going to go to the time, labor and expense of raising livestock and poultry, you may as well do it right, that it is smart business for a farmer to get as much production, as much profit as possible for his efforts.

Although this is a philosophy which cannot be refuted, there is some laziness, and this-old-way-of-feeding-is-good-enough thinking. And the only way this can be overcome is through a constant educational campaign, which, by means of tested facts, shows enlightened farmers how they are missing the boat profitwise unless they use improved methods.

What part can the average feed dealer play in this important feed crusade? Well, there are a number of definite ways in which he can help, as follows:

Annual feed clinic. When the dealer holds an annual or semi-annual feed clinic, inviting farmers to come to hear qualified speakers tell about methods of getting better results through better feeding, he is taking an important step.

When farmers attend such meetings, it means that they are learning about new and improved methods. And American farmers will try new ways of doing things, especially if the profit angle is stressed to them. The psychological effect of a feed clinic is that it promises greater profits, that farmers who attend can find many new ways of improving their feeding programs.

Sometimes a farmer will not listen to a dealer telling him of scientific feeding plans, but when an outside, qualified speaker says the same things, the farmer will be inclined to listen. You have often heard it said that a prophet is usually without glory and honor in his own country.

But, on the other hand, when the dealer continues to spread scientific feeding facts, he lays the groundwork for the feed clinics and promotes a

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JENSEN MILLS - - NEOLA, IOWA

receptive frame of mind on the part of many feeders.

The crusade for better feeding needs to have many facts at its disposal, and they must be advertised in print, in window displays, on signs. There are so many important facts about good feeding that no farmer can retain all of them when he hears them for the first time. Charts, signs, advertising and the like help to highlight the important facts about better feeding and impress them upon the farmer. And such facts need to be repeated time and again.

So gather all the facts that you can about better feeding, and have them at your disposal for display or advertising. Use these facts, as they are powerful weapons in your campaign to sell more quality feed.

Time was when farmers smiled when they heard of a neighbor who weighed an individual cow's milk production and fed accordingly. But today there are many farmers who feed this scientific way, because it has been advocated by feed and other men interested in better production. Time was, too, when some farmers thought an occasional handful of bran in the dairy ration was enough to increase milk production. This was purely a guesswork proportion, not based on facts. Today, the farmer who so wishes can get a scientific formula for feeding and learn the why of every step in the program.

Show the progress. I think that every feed dealer can annually have a "Feed Progress Exposition" at his store, and I believe this will further the feed crusade and increase sales.

For example, the dealer can set up a poster which shows methods of feeding in 1900, 1920, 1930 and 1951. He can post dairy cow and poultry production per animal and hen under each of these years. He can also post figures showing the per capita increase in consumption of milk and poultry products.

When the farmer sees these charts or displays and reads them, he can see for himself that agriculture and the feed industry are progressing to the benefit of the farmer, feed dealer and the nation as a whole. He is bound to be impressed. He knows that scientific methods and feeding have played a major part in farming progress. This will incline him to pay more attention to scientific feeding advice.

Feed crusade book. When a customer institutes a better feeding program and makes more profit thereby, this is news. Your newspaper publisher will be interested in hearing about such a plan. Tip him off to customers who have made such progress. Either he will interview them himself and print a story or he will ask you to do it. When such a story is printed locally, it is a definite accomplishment in your feed crusade program.

Clip such articles and paste them in your scrapbook. They will serve as an example and provide reference material for your educational campaign in the months to come.

If a feeder gives you a testimonial pertaining to his flock or herd, publicize it with his consent, and also record it in your feed crusade scrapbook. It will prove valuable in more ways than one.

Pictures of flocks and herds before and after feeding improvements are also valuable to post on the walls of your store and in your scrapbook. They will all focus attention on the idea of better feeding.

If the thousands of feed dealers throughout the nation do their part in this feed crusade, greater benefits will come much faster. This feed crusade will bring greater prosperity for the farmer and the nation. It is certainly a worthwhile project which should occupy an important place in the feed dealer's mind.

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Add the golden ingredient, HI-PRO-CON, and you add economical quality to your feeds! HI-PRO-CON can improve the feeding value of a ration because Staley's special controlled heat treatment makes the protein-enriching amino acids highly available . . . digestible, for all types of poultry and swine.
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Experienced processing engineers maintain rigid controls to assure you uniformity of quality in your feeds it is this quality that counts. Feeds containing HI-PRO-CON have more nutritional value per given volume because of its greater density.
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Protein-packed HI-PRO-CON permits you to use substantial proportions of the most economical feed ingredients with greater flexibility in feed formulation.
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Human Nutrition Problems of Concern to the Livestock and Feed Industries

By Dr. L. A. Maynard

BY far the principal market for livestock products, and thus indirectly for the feeds that produce them, is the human stomach. The nutritional discoveries of recent years have had a large influence on the kind and amounts of food eaten. These findings will have an even greater influence in the future as their significance becomes more widely understood. Clearly, both the livestock and feed industries have a large stake in the food and nutrition findings which will govern the market for their products.

Of all foods, livestock products have benefited most from the modern discoveries. By "modern" I refer to the last 40 years which have given us our present knowledge of vitamins, amino acids and trace minerals. The developments in vitamin nutrition began with the finding of vitamin A in butter in 1914. From that time down to the very recent identification of vitamin B_{12} and related compounds, there has been a succession of discoveries which have highlighted the importance of animal products. The development has been similar with respect to amino acids. You all know that these various research findings have played a large role in increasing the demand for milk, eggs and meat. The history of nutrition discoveries to date should serve to focus attention on the importance, to the livestock and feed industries, of the solution of current problems.

Nutrition scientists recognize that there are unidentified factors which are nutritive essentials for various animal species. Undoubtedly this is also true for man. The question remains open as to whether certain of the vitamins and trace minerals now known to be required for farm animals are also human essentials. The quantitative needs for certain factors recently discovered to be required in the diet of man remain to be worked out. Similarly many more data are needed on the quantitative distribution of these essentials in foods. Agriculture, and particularly the livestock industry, is bound to benefit from studies which provide new information regarding the nutritive value of its products in terms of human needs.

EDITOR'S NOTE: Many of the same basic research problems are involved in human and animal nutrition, Dr. Maynard told feed men attending the recent Cornell Nutrition Conference. Many of these can be solved more effectively if there is an understanding of related questions regarding the use of animal products in human nutrition, he said. Such questions as nutrition requirements of older people, effects of the use of new chemicals and drugs and the growth of food faddism were cited by the speaker, who is head of the department of biochemistry and nutrition at Cornell University. The text of his talk is presented here.

One of the basic problems in the field of human nutrition is the establishment of more specific criteria for evaluating nutritional status. This is particularly true in the case of adults. The symptoms of acute deficiencies are readily recognized but the physical signs and the biochemical measures for determining whether mild deficiencies exist are very inadequate for the purpose. More definite information as to the specific deficiencies which occur in various segments of the population would make corrective measures more effective

(Cont. on page 35 following special section)

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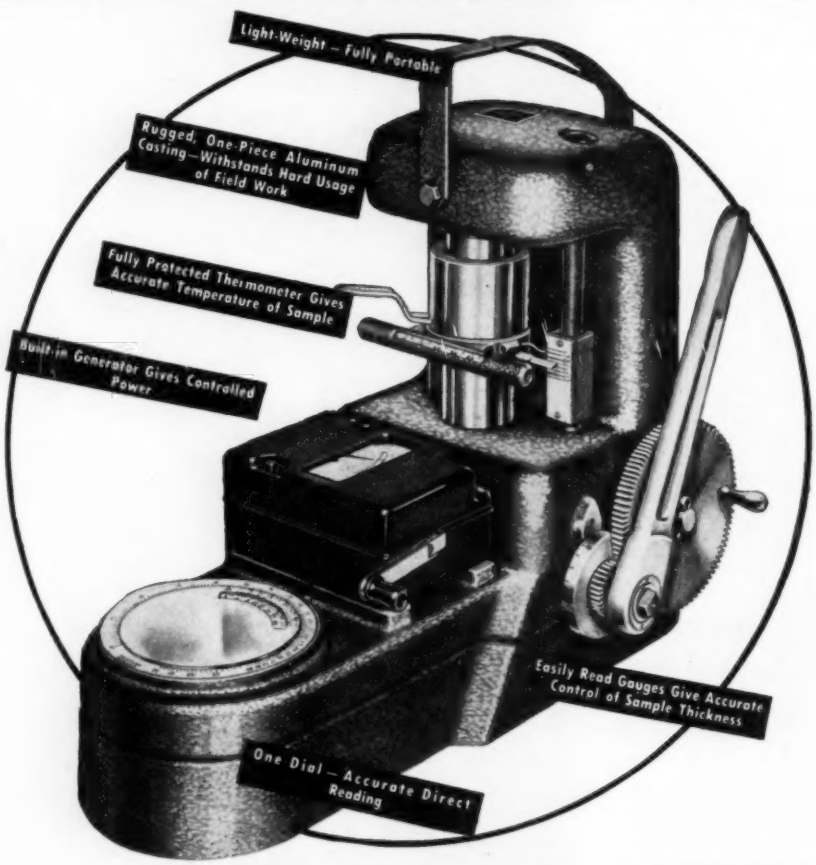
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Dehydrators' Convention Plans Ready

Fun, Recreation—ADA Meeting City Offers Plenty

ST. PETERSBURG, FLA.—When delegates to the American Dehydrators Assn. convention roll into St. Petersburg next January, they will find a city planned to fit every vacation need, and to provide the utmost in recreation.

They will find a city of many contradictions—a city of youth and beauty—and frolicking old age; a city where 10,000 oldsters play shuffleboard tournaments at Mirror Lake Recreation Center with teams classified as over-60, over-70, and on up to over-90. And men wait anxiously to reach 75 to join a ball team!

Sometime during each year St. Petersburg is visited by 500,000 Americans, including many of the great and near-great as well as many every-day citizens who come again and again to enjoy the varied entertainments the city offers.

During January, St. Petersburg provides a long list of spectacles and sports events. The Open Winter Fishing Tournament, sponsored each winter by the St. Petersburg Rod & Gun Club, offers weekly prizes for successful anglers. The West Coast Championship Tennis Tournament will be played at Bartlett Park from Jan. 8-13. On January 11 the St. Petersburg-Venice Yacht Race will get underway from the municipal pier, and Jan. 19-23 the annual midwinter Lightning Regatta will take place on Tampa Bay, off St. Petersburg's waterfront.

There will be dog, cat, orchid and antique shows at the pier through the month; the Ballet Russe at the Florida Theatre and the St. Petersburg Operetta Company will inaugurate its nightly winter program of musical plays Jan. 22. Late in the month the Dixie District contest of Barbershop Quartets from 11 southern states will provide colorful parades and sing-fests.

Other entertainments are concerts, screen tours, power boat races; and shuffleboard, bridge, chess, checker and lawn bowling tournaments.

Many of those who winter in St. Petersburg spend the greater part of their time fishing. Some like the charter boats, others prefer th "party" [illegible] you may fish day, 30 [illegible] Gulf Str watch [illegible] ving fish other [illegible] a—an all y [illegible] pri dinne [illegible] aur Th [illegible] me the [illegible] nto Beach [illegible] iu munici [illegible] n t Gulf of [illegible] un Motorists [illegible] 20- up the Gul [illegible]

Don't over [illegible] c and tripper boats wi [illegible] er their own particular type of e [illegible] tain ment.

There are excursion [illegible] te Island; to Manatee River; [illegible] Mullet Key, and some of them provide moonlight excursions.

And for those who like to hazard a guess on the unpredictable there are always Derby Lane and Sunshine Race Track—the greyhounds, and the horses.

ADA CONVENTION HOTEL—The Soreno, shown above, overlooking Tampa Bay at St. Petersburg, Fla., is the site chosen for the 1952 convention of the American Dehydrators Assn., to be held Jan. 15-16. In foreground is the Central Yacht Basin, and between the hotel and the bay is tropical Soreno Park.

PROGRAM TO INCLUDE REPORTS ON ALL ASPECTS OF INDUSTRY

More Than Half of ADA Members Already Plan to Attend 10th Annual Session in Florida Jan. 15-16 —Research to Be Featured

Dehydrators from all producing areas will be well represented at the 10th annual convention of the Amer[illegible]sn. at St. Peters[illegible]. Judging from [illegible]om the secre[illegible]n half of the [illegible] have indicat[illegible] attend and to [illegible]ake advantage [illegible]and the special [illegible]he Soreno Hotel. [illegible]has acquired an en[illegible] for its outstanding [illegible]rams and it appears [illegible]on will be no exception [illegible]y of talent from the de[illegible], research and business [illegible]eld.

Alfalfa rese[illegible] to be the focal [illegible] [illegible]ession [illegible] [illegible] and [illegible] [illegible] [illegible]rom [illegible] [illegible]iving [illegible] [illegible] to give current [illegible] The council also will analyze new studies for association consideration for the coming years.

Ways and means of product improvement and increasing efficiency are of great interest to dehydrators. Innovations of operations as the result of years of experimentation in the field of dehydration will be revealed at the convention in a practical manner.

No Phase Overlooked

No phase of dehydrating has been overlooked, according to the program committee: Joseph Chrisman, Cerophyl Laboratories, Kansas City; Loyd Faris, W. J. Small Co., Kansas City, and Henry Moeller, Sioux Alfalfa Meal Co., Vermillion, S. D.

Costs and how to "account" them are requisites of every sound business operation, and dehydrators will be addressed on this topic by competent authorities.

With the rapid progress of nutrition it is only natural to recognize the needs of feeds in the future. Leaders in the feed industry are featured on the program as are prominent men of business and government.

Special events in keeping with the Florida locale and for the enjoyment of all are being arranged. It is expected that the tenth anniversary program will prove one of the most constructive and entertaining ever conducted by the association.

Allied trades are cordially invited to attend.

ADA PROGRAM HIGHLIGHTS

MONDAY, JAN. 14

BOARD OF DIRECTORS MEETING ALL DAY.
ALFALFA RESEARCH COUNCIL MEETING ALL DAY.
MIXER PARTY—5-7 p.m.
DOG RACES — "Dehydrators Night," with special handicaps.

TUESDAY, JAN. 15

MORNING SESSION, 9:30 A.M.—Meeting at Soreno Hotel devoted to business of the association, including adoption of new rules and research plan, and amendments to by-laws and trade rules. A complete report of research will be made.
LADIES LUNCHEON AND STYLE SHOW—Held at noon, under direction of the ladies' committee.
AFTERNOON SESSION — Production Panel, featuring discussions on growing better alfalfa, farmer relations, harvesting, dehydration, grinds and grinding, cooling, pelleting and bulk handling, dust control, packaging, warehousing, employee relations, costs and how to figure them.
ANNUAL ALFALFA SMOKER — Tuesday evening, devoted to questions and answers on production and research.

WEDNESDAY, JAN. 16

BUSINESS SESSION — "Future Feeds for Future Needs." Walter C. Herger, president, American Feed Manufacturers Assn., Chicago.
"Headaches of an Ingredient Buyer." Hal Dean, Ralston Purina Co., St. Louis.
"Relation of Soils and Fertility to Growing Better Alfalfa." J. M. Wallace, Greenmelk, Ltd., Wallaceburg, Ont.
"It Ain't Chicken Feed." Don Turnbull, executive secretary, American Poultry & Hatchery Federation, Kansas City.
"Trimming Our Sails." Ray B. Bowden, executive vice president, Grain & Feed Dealers National Assn., Washington.
(Other speakers of national reputation have been invited.)
PRESIDENT'S LUNCHEON—Wednesday noon; a prominent speaker on national affairs will be featured.
ANNUAL BANQUET AND COCKTAIL PARTY — Dr. Jerry Sotola, Armour & Co. livestock bureau, Chicago, banquet speaker, with his observations on Europe based on 8,000 miles of travel in 13 European countries. A floor show and dancing will follow.

THURSDAY, JAN. 17

MEETING OF THE NEW BOARD OF DIRECTORS.
WEEKEND IN HAVANA—Special arrangements have been made for a 2-day visit to Cuba following the ADA convention in St. Petersburg. Boat leaves Miami on Friday, Jan. 18, at 6 p.m. and returns the morning of Monday, Jan. 21. Information and reservations may be had from Ray Cox, Acme Travel Service, Board of Trade Bldg., Kansas City, Mo.

member ADA American Dehydrators Association
PASTURE IN THE BAG

A Decade of Progress

THE editors take a great deal of interest and pride in presenting this special alfalfa section of Feedstuffs. Its purpose is twofold. The first is to make available, in a convenient concentration of space, a great many of the facts about the alfalfa meal industry—from the growing and harvesting, through the processing and distribution, and the utilization of the product in formula feeds. In order to do this, we have had the much appreciated cooperation of many leaders in the industry and of nutritionists and research men of the highest standing. The result, we believe, has practical and permanent value to all feed men. The section is so made up that it can be preserved for use when an extensive reference on alfalfa meal and the alfalfa dehydrating industry is needed.

Our second purpose is to give deserved recognition to the progressiveness of the alfalfa dehydrators, and to help them launch their celebration of the 10th anniversary of the founding of the American Dehydrators Assn.

There are few, if any, other processors of standard feed ingredients who have devoted themselves as wholeheartedly during the past 10 years to finding out what they had to sell, how it can best be utilized, and how to improve it. The alfalfa dehydrators have had numerous tough problems in the road of realizing their full potentialities. Not all of the problems have been solved, but some of them have been and substantial progress has been made in others. The same intelligent approach, adequate financial backing, and industry spirit during the next decade should result in even greater progress. The ball is rolling.

★ ★ ★

WE think it is pertinent to quote from our editorial comment of nearly two years ago, under the caption, "Mining Green Gold." Here is a part of what we said, which is still applicable:

"A friend of ours in the feed business once remarked to us that the alfalfa story sounded almost like a fairy tale. It is one of the oldest plants to be used for feeding, yet it was not many years ago that the principal selling point for alfalfa meal was its calcium content. In the past 20 or 25 years, one value after another has been discovered in the plant and its products, and the total of them is amazing to the point of being termed a miracle of nature. There are few, if any, who do not believe that there are still unknown values in the plant that will be defined in the future.

"These values, of course, are inherent in the plant and always have been there, although they are influenced by soil, climate, cultivation and processing. But the utilization, and consequently the practical biological worth, of alfalfa has been increased vastly by the knowledge that has been gained of the specific individual values it contains.

"The thing that has developed this knowledge has been research. Agricultural experiment stations and colleges and industry workers have made great strides in taking alfalfa apart, so to speak, and finding out what factors it can furnish to meet nutritional requirements of various species of animals and poultry.

"The results of this research have played an important part in the building up of a substantial industry concerned with the processing and distribution of alfalfa meal, and particularly of dehydrated alfalfa meal. If the story of alfalfa seems almost like a fairy tale, the development of the dehydrated alfalfa meal industry can be considered in the same category. There have been few products in the feed field that have had the same general acceptance and recognition. And it has been because the values in alfalfa meal have been determined and publicized by sound research that the acceptance and recognition have materialized."

★ ★ ★

ALMOST all of the dehydrated alfalfa meal produced is used in formula feed, and the interests of the two industries are largely identical. As the dehydrators make progress in improving their product and in finding new values in it, feed manufacturers benefit, too. As the formula feed industry expands, the dehydrators also prosper.

So, it is a fine thing for everyone concerned to note the very real and continuing progress that is being made, the sincerity and persistence with which problems are attacked, and the strength to which the American Dehydrators Assn. has grown.

We are sure that all of our readers will join with us in saying: "Well done, ADA, and happy birthday!"

So you want to know about alfalfa meal?
CHECK with HEADQUARTERS

Bill Noel Kay Burwell

SCORES of alfalfa processors and feed manufacturers have the habit of dialing VIctor 1915—Kansas City—any time they really want to know what's going on in the alfalfa meal market. WHY NOT YOU?

WHETHER we trade regularly or not—we are never too busy to exchange market information with you.

THE next time you need alfalfa meal—or any other feed ingredient, for that matter—give us a ring. And for gosh sakes if you have any alfalfa meal to sell RIGHT NOW, please let us know.

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PRODUCT FROM OUR
PLANTS IN NEBRASKA
AND KANSAS BEST AREAS

H. E. CLARK Company
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look to a member

Membership in the ADA is both a privilege and an obligation. Members voluntarily impose upon themselves high ethical standards. They contribute, for the most part, to Association research that is aimed at product improvement and utilization. In turn, they receive up-to-the-minute reports on new product values that are continually being uncovered—values of great benefit to the feed manufacturer and his customers. For a reliable source of the vital feed ingredient—dehydrated alfalfa—contact a member in good standing listed below.

member American Dehydrators Association

PASTURE IN THE BAG

for a reliable source of

DEHYDRATED ALFALFA

ARIZONA

Casa Grande	Borg Mills
Mesa	Arizona Alfalfa Products Co.

ARKANSAS

Blytheville	Rich Land Products Co.
Driver	Lowrence Bros. & Co., Inc.
Hughes	Horseshoe Milling Company
Osceola	Cromer Milling Co.

CALIFORNIA

Dixon	Dixon Dryer Co.
Firebaugh	V. C. Britton Co.
Gerber	California Alfalfa Mills
Holtville	Holtville Alfalfa Mills, Inc.
Los Angeles	Fernando Alf. Mlg. Co.
Madera	Kerman Alf. Dehydrating Co.
Tracy	San Joaquin Valley Hay Growers Assn.
Woodland	C. M. Brubaker & Sons

COLORADO

Lamar	National Alf. Deh. & Mlg. Co.
LaSalle	Northern Colo. Alf. Mlg. Co.
McClave	The Reyher Milling Co.
Wiley	Arkansas Valley Alf. Mlg. Co.

ILLINOIS

McClure	Western Alfalfa Meal Co.
Roanoke	Prairie Dehydrating Co.

INDIANA

Fort Wayne	T. E. White Co., Fort Wayne Stock Yards
New Paris	Dwiggins & Sons Alf. Mlg. Co.
Rushville	Rush County Alf. Deh. Coop., Inc., Box 264

IOWA

Conrad	Green Products Co.
Iowa City	Iowa Valley Milling Co.
Laurel	Paul Bros. Seed & Feed Co.
Sloan	Wraybill Dehydrating Co., Inc.

KANSAS

Abilene	Abilene Alfalfa Mills, Inc.
Hiawatha	Thomson's Soya Mill
Hutchinson	The Ark Valley Alf. Mills, Inc.
Independence	Elk Valley Alfalfa Mills
Junction City	Junction City Deh. Co., Inc.
Lawrence	Ramsey Dehydrating Co.
Maize	Bert & Wetta
Manhattan	Eureka Lake Alfalfa Co.
Neodesha	The W. J. Small Co., Inc.
Oxford	The Nelson Alfalfa Mills, Inc.
Syracuse	Western Dehydrating Co.
Topeka	Jones Alfalfa Milling Co.
Topeka	Kaw Dehydrating Co.
Topeka	Koelling-Thompson Deh. Co.
Topeka	Harry M. Liggett Co., Inc.
Topeka	Progress Products Co.
Winfield	Southwestern Alfalfa Mills

MICHIGAN

Blissfield	Ireland Alfalfa Mills
Blissfield	Piehl's Alfalfa Mill
Erie	Erie Alfalfa Mills, Inc.

MINNESOTA

Bird Island	Rural Coop. Drying Assn.
Crookston	Red River Alfalfa Co.
Luverne	Paulson Deh. Products Co.
Olivia	Northern Drying Co.
Swift	Landby Dehydrating Co.
Worthington	Worthington Dehydrating Co.

MISSOURI

Carrollton	Carrollton Processing Co.
Charleston	Dehydrator's Supply Co.
Charleston	Raffety & Vowels
East Prairie	Story Farms, Inc.
Kansas City	Cerophyl Laboratories, Inc.
Levasy	Levasy Dehydrating Co.
Liberty	Desert Gold Dehydrators
Odessa	C. E. Carter Co.
St. Louis	Ralston Purina Co.
Sikeston	E. P. Coleman & Co.
Wyatt	Raffety & O'Rourke

NEBRASKA

Burwell	Loup Valley Alfalfa, Inc.
Columbus	Al-Fa Meal Company
Cozad	Allied Mills, Inc.
Cozad	Haymaker Feeds, Inc.
Cozad	Nebraska Farms Products, Inc.
Dakota City	Beermann Bros. Dehy. Co.
David City	David City Alfalfa Co.
Falls City	Ebel Alfalfa Mills
Fremont	Dehydrated Alfalfa Mills, Inc.
Hastings	Morrison & Quirk
Kearney	Clark & Robertson
Lexington	Central Alfalfa, Inc.
Lexington	Dawson County Feed Products
Lexington	Nebraska Alfalfa Farms, Inc.
Lexington	Platte Valley Products, Inc.
Minden	Trico Feed Mills
Nebraska City	Nebraska City Deh. Prod. Co.
North Platte	Birdwood Products Co.
Schuyler	F. J. Higgins Milling Co.
Tekamah	Dehydrated Products Co. & Burt County Mills, Inc.
Verdon	Moray Processing Corp.
West Point	West Point Feed Products Co.
Willow Island	Willow Products Co.
Wisner	Albers Dehydrating Co.

NEW MEXICO

Roswell	AAA Alfalfa Milling Co.

NEW YORK

Avon	Genesee Valley Alfalfa Corp.

NORTH DAKOTA

Minot	Big Sky Dehy., Inc.

OHIO

Bradner	Portage Valley Milling Co.
Defiance	The Miller Alfalfa Co.
Dunbridge	Central Mills, Inc.
Graytown	Rohloff Bros., Inc.
New Bavaria	Schwab Bros. Mills, Inc.
New Bremen	Bremco Alfalfa Mills, Inc.
Oak Harbor	Hayward, Inc.
Ohio City	MHR Alfalfa Co.
Toledo	The A. E. Caple Co.
Toledo	Ireland Alfalfa Mills

OKLAHOMA

Dewey	Dewey Dehydrating Co.
Muskogee	Choska Alfalfa Deh. Mills
Muskogee	Cole Grain Co.

PENNSYLVANIA

Allentown	Trexler Farms
Nazareth	Green Acres Farms
Nazareth	Keystone Dehydrators
Nazareth	Sunny Slope Farms, Inc.
New Castle	S. W. Douthitt
Roaring Spring	Cove Dehydrating Plant

SOUTH DAKOTA

Vermillion	Sioux Alfalfa Meal Co.

TENNESSEE

Memphis	Nickey-Eason Plantations, Inc.
Tiptonville	Reelfoot Alfalfa Mill

TEXAS

Brookshire	Brookshire Alfalfa Mills
Calvert	Anderson Dehydrating Co.
Hearne	Brazos Valley Dehydrating Co.
Kaufman	Star Brand Cattle Co. McAll
McAllen	Valley Vitamins, Inc.
Mumford	Mumford Alfalfa Mlg. Co., Inc.
Raymondville	Evergreen Farms, Inc.
San Marcos	Green Valley Deh. Corp., Inc.
Sherman	Grayson Alfalfa Deh. Mills
Sugar Land	Sugarland Industries
Vernon	Greenbelt Dehydrating Co.
Wharton	Caney Valley Coop. Dry. Assn.

UTAH

Ogden	Farmers Grain Cooperative

WASHINGTON

Mount Vernon	Pierson Dehydrating Co.
Mount Vernon	Skagit Dehydrators
Snohomish	Floyd McKennon
Touchet	Ahlquist Dehydrator Co.

WISCONSIN

Fountain City	Jos. S. Greshik
Sussex	Mammoth Spring Canning Co.

CANADA

Vancouver, B.C.	Buckerfields, Ltd.

ENGLAND

Stoke Ferry, Norfolk	Crouch Dehydrators, Ltd.

You are invited to attend the 10th Annual Convention at the Sureno Hotel, St. Petersburg, Florida, January 15 and 16, 1952. Timely topics share the program with reports on Product Improvement and Reviews of Research sponsored by ADA at the various Colleges and Experiment Stations. Special events (including a week-end trip to Havana) are planned for the enjoyment of all.

AMERICAN DEHYDRATORS ASSOCIATION

For information on dehydrated alfalfa contact the ADA office at 1015 Dwight Building, Kansas City 6, Mo.

TEN YEARS OF ADA PROGRESS

By Lloyd S. Larson
Executive Secretary,
American Dehydrators Assn.

AN ambitious array of activities and accomplishments of the American Dehydrators Assn. will pass in review at the 10th anniversary convention, Jan. 15-16.

Credit is due in no small measure to the officers and committees, who have functioned so capably in the building of a program and effectively carrying it out.

Three points stand out in the review of ADA activity, particularly as they apply to the feed industry:

★ Adoption of a uniform set of trade rules.

★ Initiation of a sound research program.

★ Over-all drive for product improvement.

Naturally in a report to the membership many other categories are included, such as the dissemination of crop and market and other pertinent information in the weekly bulletin, compilation and release of vital statistics, conducting regional meetings for the membership, establishing an annual alfalfa conference for research workers in cooperation with various national and state agencies, and generally serving the industry in every way possible

A resume of the developments which led to organizing the dehydrators may lead to better appreciation of association effort in the rather brief time of its existence.

Working Together

A new industry always faces many obstacles and the alfalfa dehydrators were no exception. A few of the early operators soon learned that "working together" paid off much better than individual effort, and from the united thinking of a small group in Ohio 10 years ago, the American Dehydrators Assn. today has 134 direct members located in 24 states, Canada and England. These members own and operate about 300 drums or dehydrating units producing upwards of a million tons of dehydrated alfalfa products a year.

There is an investment of roughly $50 million in machinery, equipment and warehousing, and dehydrators provide an annual cash income in excess of $10 million to farmers who grow the raw product—alfalfa.

The rapid growth of the alfalfa industry, particularly during World War II, brought with it confusion as to standardization of product and trading practices. Much of this was clarified and immeasurably improved with the adoption of a uniform set of trade rules in 1948 which are a compulsory contingent with ADA membership.

Lloyd S. Larson
. . . Sees Bright ADA Future . . .

ADA OFFICERS—Officers of the American Dehydrators Assn. for the current year are shown above. They are, from left to right, Joseph Chrisman, Cerophyl Laboratories, Inc., Kansas City, president; Loyd M. Faris, W. J. Small Co., Kansas City, first vice president; Henry G. Moeller, Sioux Alfalfa Meal Co., Vermillion, S. D., second vice president, and Lloyd S. Larson, Kansas City, executive secretary.

• • •

★ Possibly no single activity has done more for dehydrated alfalfa and feed trade than the writing and adoption of the trade rules. Due credit should be given the committee —Loyd Faris, W. J. Small Co., Kansas City, Leo T. Murphy, Allied Mills, Omaha, and Frank Parman, Hayward, Inc., Oak Harbor, Ohio—who functioned so admirably on drafting the original rules.

Momentous Step

Clarification of trading practices was a momentous step forward and since January, 1948, has done much to put the dehydrating business on an ethical plane comparable to the well-established feed manufacturers and allied trades.

★ Trade rules are working and the cases for arbitration have been limited to only two since their adoption. Members of the arbitration committee for the current year are Vernon Britton, V. C. Britton Co., Firebaugh, Cal.; L. J. Schiller, Hayward, Inc., Oak Harbor, Ohio; C. R. England, Brookshire Alfalfa Mills, Brookshire, Texas; R. E. Nye, National Alfalfa Dehydrating & Milling Co., St. Louis, and James Wolfe, Kaw Dehydrating Co., Topeka, Kansas.

★ Revisions are made to the trade rules as needs require changes or additions. The present committee—J. L. Wetta, Bert & Wetta, Maize, Kansas; Gordon Trist Burke, Dehydrated Products Co. & Burt County Mills, Takamah, Neb., and Loyd Faris—will submit amendments at the annual meeting in January.

It should be emphasized that membership in ADA is contingent upon abiding by the trade rules. The association condones no substitute for this. The policy of the board of directors is becoming more critical in closer scrutiny of applicants for membership and in considering dismissals where there is evidence of violations. That kind of procedure builds a stronger organization, deserving the respect and confidence of its customers.

Creating a research program and setting out to collect the necessary funds proved to be a herculean task. Mention should be made here of John Dwiggins, Dwiggins & Sons, New Paris, Ind., who served as ADA president during 1948, the year research solicitations were made.

★ The research council organized in 1947 deserves the credit of developing a program of research. Serving on the original Council group were Dr. Forrest W. Quackenbush, Purdue University chairman; W. S. Thompson, Ohio state department of agriculture, secretary; Dr. R. E. Silker, Kansas State; Prof. Damon Catron, Iowa State; John C. Kephart, National Alfalfa Dehydrating & Milling Co.; Dr. Marvel L. Baker, University of Nebraska, and Dr. Roland M. Bethke, Ohio Agricultural Experiment Station.

The splendid cooperation of the council, now increased to 12 and described fully elsewhere in this issue, has contributed substantially to the success of the research program now concluding its third year.

The majority of dehydrators subscribed and generously supported the research plan and more than $100,000 has been collected in this initial three-year period.

★ It is the unanimous view of the association directors that research work must be continued and the ADA dues committee will present a new finance plan at the convention in January. Setting up a fair and equitable dues structure has required much thought and study over a three-year period. The committee composed of Henry G. Moeller, Sioux Alfalfa Meal Co., Vermillion, S. D., chairman; Jerry Fielder, Dixon (Cal.) Dryer Co.; Don Merrick, Central Mills, Dunbridge, Ohio; Wiley Miner, Moray Processing Corp., Verdon, Neb. and W. J. Small, W. J. Small Co., Neodesha, Kansas, deserves much credit.

It is contemplated that dues and research will be compulsory, with research contributions being on a tonnage basis.

Needless to say, research works slowly and painstakingly, but a good start has been made and work is expected to grow steadily in importance.

Studies supported by ADA funds have stimulated much interest in dehydrated alfalfa and its proper place in manufactured feeds, the real objective being the judicious use of the product for maximum and most efficient production of meat, milk and eggs.

Other Groups Cooperate

Colleges and experiment stations, the U. S. Department of Agriculture and industry have been most cooperative. The relationship of these agencies and institutions has truly been an inspiration, resulting in a keener sense of appreciation for the need and importance of research and the important part these people play in the future of our American agriculture.

ADA is cognizant of apparent weaknesses and is taking steps to correct them. Product improvement

(Continued on page 7a)

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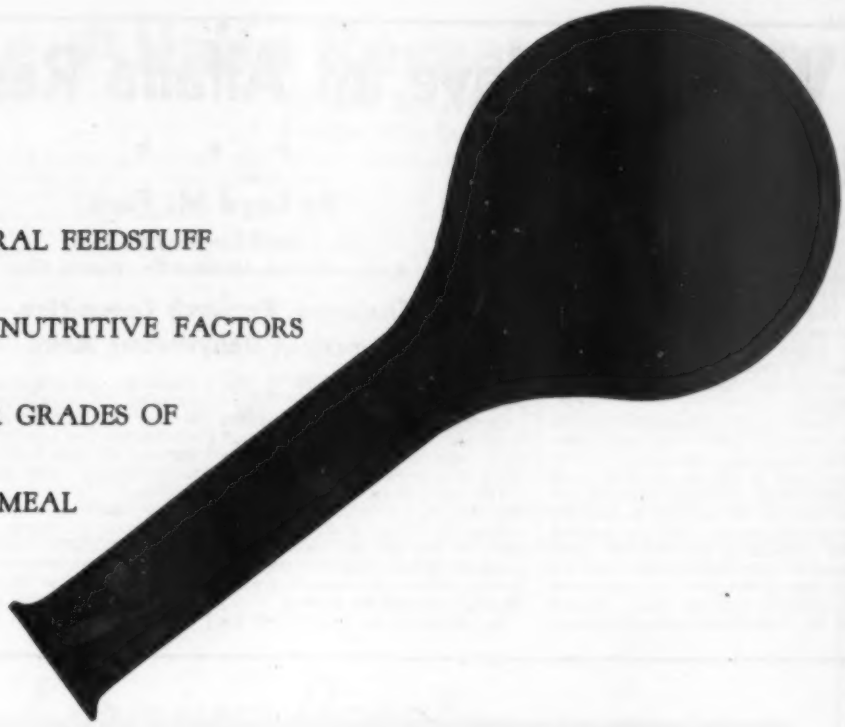

- PROTEIN
- ALPHA-TOCOPHEROL (VITAMIN E)
- RIBOFLAVIN
- CAROTENE (PRO-VITAMIN A)
- PANTOTHENIC ACID
- CHOLINE
- VITAMIN K (PHTHIOCOL)
- XANTHOPHYLLS
- ANTI-GIZZARD EROSION FACTOR
- BIOTIN
- NIACIN (NICOTINIC ACID; P-P FACTOR)
- VITAMIN C
- FOLIC ACID (INCLUDING FOLIC ACID CONJUGATES)

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Calcium, Phosphorus, Magnesium, Sodium, Chlorine, Potassium, Sulfur, Silicon, Iodine, Manganese, Iron, Copper, Cobalt and Zinc.

EXTRA VALUES!

Purchases of dehydrated alfalfa meal are made on a grade based on the protein and carotene content. You should also consider the additional nutritive factors, for these have an intrinsic value, which, if secured from some other origin, would cost you money. Obtain your requirements from a reliable source—with a dependable record of performance.

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Why We Have an Alfalfa Research Program

★ ★ ★

By Loyd M. Faris
W. J. Small Company Division,
Archer-Daniels-Midland Co., Kansas City
Chairman, Research Committee,
American Dehydrators Assn.

IT was on Aug. 8, 1941, that Articles of Incorporation were filed by the American Dehydrators Assn. This organization was the result of the efforts of a group of Ohio dehydrators with the vision and foresight of the need of cooperation between members of this comparatively new industry.

The association actually reached maturity at the Chicago convention in January, 1948 when the Trade Rules, a Code of Ethics, and a new Constitution and By-Laws were adopted.

The research program was initiated in January, 1949. This progressive step placed the American Dehydrators Assn. in the top ranks of trade associations. Through research, we are serving the producer of the crop which we process. And, the program has resulted in an improved confidence in dehydrated alfalfa from the customer's viewpoint. By supporting a research program, those engaged in the dehydrating industry provide tangible evidence of faith in the value of their product.

During the three years of research activities, the American Dehydrators Assn. has sponsored the projects listed on page 9a.

The universities and experiment stations have evidenced the utmost in cooperation in their studies on alfalfa. Some of the progress reports from the project leaders appear in this publication. Other applications for grants-in-aid of research are pending.

In addition to the projects we are supporting, the research division has compiled 106 pages consisting of 267 articles on production, harvesting, composition and uses of alfalfa. This material has been distributed to feed manufacturers and research subscribers.

Two booklets, containing factual information concerning the value and use of dehydrated alfalfa meal, have been published. One of these works is entitled "Raise More Pigs with Less Feed" and the other "Dehydrated Alfalfa Meal in Today's Poultry Feeding". These have had wise circulation and copies are available to anyone that is interested. Current research is pointing the way to an enlarged usage of dehydrated alfalfa in the rations of cattle, calves and sheep. As the facts are developed, it is contemplated that booklets on these uses will be published.

A bulletin, entitled Research News, sponsored by the Alfalfa Research Council, is issued twice monthly and distributed to research subscribers.

The situation as concerns formula feeds and their relation to dehydrated alfalfa is aptly expressed by Dr. W. D. Maclay, chairman of the Alfalfa Research Council, in a recent communication.

"An authority on feeds has stated that in a period of national emergency 'the feed industry would be to the domestic food economy what the steel industry is to hard goods and military requirements'. With a rapidly increasing population, high incidence of employment, and international commitments, the nation's need for a sizeable expansion in the production of meat, eggs, and dairy products is widely recognized. Concomitant with the expanded production of these animal products will be the necessity for an adequate supply of essential feedstuffs.

"The position of alfalfa as the nation's preeminent forage crop demands its most advantageous use under such circumstances. Alfalfa contains the broadest spectrum of

Loyd M. Faris

nutrients of any major feedstuff. This is recognized despite the fact that about one-third of the dry weight constitutes a fraction about which little is known although there are many indications of the presence of important nutritional factors. The alfalfa dehydration industry came into being and expanded rapidly during the last decade because it could economically produce a product which retained to a very sizeable degree the high nutrient value of the growing plant material. The industry recognizes that progress toward the goal of producing an ever better product can be expedited more effectively through research."

To this end the American Dehydrators Assn. will continue to extend counsel and financial support to universities and state agricultural experiment stations on the production and utilization of dehydrated alfalfa.

ADA MEMBERSHIP

KANSAS CITY — Membership of the American Dehydrators Assn., according to the latest count, includes 134 firms, representing 300 dehydrating drums.

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- MIDLAND, KANSAS
- KANSAS CITY, MISSOUR

PROTOMONE and GREENMELK PLANTS: KANSAS CITY

W. D. Maclay

RESEARCH COUNCIL CHAIRMAN—**Dr. W. D. Maclay, head of the biochemical division at the Western Regional Research Laboratory, Albany, Cal., is chairman of the Alfalfa Research Council. He is actively engaged in the administration of investigations on chemicals to stabilize carotene in dehydrated alfalfa. Some of his work deals with the development of commercial or industrial uses for alfalfa products.**

ADA Progress

(Continued from page 4a)

and uniform quality are being given priority on the convention program and will be carried on at regional meetings throughout the production areas early in 1952.

Much progress has been made through the old "trial and error" method by individual dehydrators. This has been costly, but through a ready and willing exchange of experiences, methods of operations have materially improved. Correct dehydration is a scientific procedure.

I am optimistic over the future of the dehydrating industry. It is here to stay. The use of dehydrated products will continue to increase as we learn more about the many plus factors they contain.

The kind of people who own and operate dehydrators are good, solid citizens. They have a keen desire to keep abreast and do what is necessary to make their business permanent and profitable by supplying one of the vital ingredients essential in the feeding of our livestock and poultry.

High Quality Leadership

Leadership is of paramount importance to any group or organization. The dehydrators have been fortunate in the caliber of men who have served as heads of ADA since its founding 10 years ago. A worthy member of the group is this year's president, Joseph Chrisman. He has been conscientious and untiring. He has shown diplomacy, good judgment and patience in his dealings with Washington officials and the mass of confusion that goes with the writing of orders and regulations for the industry.

As an association—the original premise to organize was selfish in order to iron out difficulties facing dehydrators, but the willingness of the members to serve other than themselves is concrete evidence of a successful future.

SALUTE TO ADA

CHICAGO—The National Farm & Home Hour of the National Broadcasting Co. radio network will honor the American Dehydrators Assn. on the broadcast of Jan. 12, 1952.

The Alfalfa Research Council

By H. C. Schaefer

Secretary of the Council

SHORTLY after the formation and organization of the American Dehydrators Assn., it was the feeling of the officers and leaders of this industry that they needed scientific and technical guidance from scientifically trained men from academic institutions and industry. This was the origin of the Alfalfa Research Council. It was established and is sponsored by the American Dehydrators Association.

Purpose of Council

The purpose of the Alfalfa Research Council is to review and suggest research as concerns the production, processing and use of alfalfa products with the object of securing benefits for the common good of the feed industry, feeders and dehydrating industry.

Any member of the Alfalfa Research Council must be actively engaged in research on production, processing or use of alfalfa products, or qualified in the science of equipment engineering, agronomy, plant breeding, plant diseases or entomology. Representatives of the feed industry, agricultural experiment stations or allied industry are eligible for membership. Persons engaged in the dehydration process are not eligible.

The present membership of the council is 12. Each member is elected for a three-year term.

The members are selected and suggested so there is a balance between representatives of industries and educational institutions or agricultural experiment stations.

The members are suggested by the council and must be approved by the board of directors of the American Dehydrators Assn. Recommendations and nominations may be made by the board of directors or members of the association.

The officers of the council are chairman and secretary, which are elected from the membership. The council holds one meeting per year, usually the day previous to the annual meeting of the association.

Research Committee

One member of the council representing industry and one member

Keeping Pace!

DEHYDRATED ALFALFA MEAL

- Leading livestock authorities state that Dehydrated Alfalfa Meal is keeping pace with the newer nutritional developments.
- Progressive feed manufacturers know this to be true. That's why they insist on Dehydrated Alfalfa Meal in their high efficiency rations for poultry, swine and cattle.
- We at Hayward's know it, too! Keeping pace means keeping faith—faith in the product we make and an everlasting desire to earn your faith in us.
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THE ALFALFA RESEARCH COUNCIL IN SESSION—Left to right: G. M. Severson, University of Nebraska; John Kephart, National Alfalfa Dehydrating & Milling Co.; L. E. Card, University of Illinois; H. S. Wilgus, Peter Hand Foundation; H. C. Schaefer, Ralston Purina Co.; W. D. Maclay, U. S. Department of Agriculture; H. J. Almquist, the Grange Co.; J. L. Krider, McMillen Feed Mills; R. E. Silker, Kansas State College; R. V. Boucher, Pennsylvania State College. Not present when the above picture was taken were W. R. Graham, Jr., of the Quaker Oats Co. and F. W. Quackenbush of Purdue University.

representing an educational institution are elected to serve on the research committee of the American Dehydrators Assn. The research committee is composed of the above two representatives from the Alfalfa Research Council and two members from the executive committee of the American Dehydrators Assn.

The function of the research committee is to critically evaluate and review the proposed research projects which are to be financed or supported with funds from the American Dehydrators Assn. research fund. They make recommendations to the executive committee whether projects merit the financial support.

The research committee at present consists of:

Dr. L. E. Card, University of Illinois.

Joseph Chrisman, Cerophyl Laboratories, Inc., president of American Dehydrators Assn.

Loyd Faris, W. J. Small Co., first vice president of American Dehydrators Assn.

H. C. Schaefer, Ralston Purina Co.

Research Council Membership

The Alfalfa Research Council membership consists of the following:

Representing Public Institution	Term Expires
R. V. Boucher	1952
F. W. Quackenbush	1952
R. E. Silker	1953
W. D. Maclay	1953
L. E. Card	1954
Gerrish Severson	1954
Representing Industry	
W. R. Graham	1952
H. C. Schaefer	1952
H. J. Almquist	1953
H. S. Wilgus	1953
J. L. Krider	1954
John Kephart	1954

R. V. Boucher is professor of agricultural and biological chemistry at Pennsylvania State College. Much of his research and investigations has been in the field of poultry nutrition.

F. W. Quackenbush is head of the department of agricultural chemistry at Purdue University. Much of his research and investigations has been in the field of measuring the carotene content of dehydrated alfalfa. Recently he was elected president of the American Feed Control Officials.

R. E. Silker is head of the chemistry department at Kansas State College of Agriculture and Applied Science and the Agricultural Experiment Station. Formerly he was associated with the W. J. Small Co. conducting pioneering investigations in the field of alfalfa dehydration.

H. C. Schaefer

AUTHOR—H. C. Schaefer, secretary of the Alfalfa Research Council and author of the accompanying article, is manager of nutrition research laboratories, Ralston Purina Co.

W. D. Maclay is head of the biochemical division at the Western Regional Research Laboratory, Albany, Calif. He is chairman of the Research Council and is actively engaged in the administration of investigations on chemicals to stabilize carotene in dehydrated alfalfa. Some of his work deals with the development of commercial or industrial uses for alfalfa products.

L. E. Card is head of the animal science department at the University of Illinois. Formerly he was head of the poultry department at the University of Illinois and has been one of the leaders in the Poultry Science Association and poultry industry.

Gerrish Severson is head of the department of farm chemurgy at the University of Nebraska. His work consists of developing new commercial and industrial uses for agricultural or farm products.

W. R. Graham is director of research for the Quaker Oats Co., Chicago. Much of his research experience has been with the development of iodinated casein as applied in the nutrition of farm animals. He has been closely associated with the research on grass juice with the Cerophyl Laboratories.

H. J. Almquist is director of research for the Grange Co., Modesto, Calif. Formerly he was associated with the University of California and has pioneered in the study of the amino acid requirements of chicks and turkey poults. Previously he was one of the outstanding investigators in studying the biological value of proteins. Early studies of vitamin K are also to his credit.

H. S. Wilgus is director of research for the Peter Hand Foundation, Chicago. Before his present connection, he was head of the poultry department, Colorado Agricultural and Mechanical College and Agricultural Experiment Station. He was one of the pioneers in the investigation of water soluble vitamin requirements of poultry. His work at Cornell led to the association of manganese deficiency with perosis or slipped tendons in chicks.

J. L. Krider is director of research for McMillen Feed Mills, Decatur, Ind. He was formerly in charge of swine nutrition investigations and research at the University of Illinois. Much of his work demonstrated and proved the nutritional merits of dehydrated alfalfa in the brood sow ration.

John Kephart is director of research for the National Alfalfa Dehydrating & Milling Co., Lamar, Colo. He has been a leader in the field of investigating antioxidants and stabilizing agents for carotene in dehydrating alfalfa.

H. C. Schaefer is manager of nutrition research laboratories for the Ralston Purina Co., St. Louis, Mo. He is secretary of the Alfalfa Research Council. His experience has been in the field of animal nutrition.

Reviewing Research Projects

The research projects to be financed or supported by grants-in-aid from the American Dehydrators Assn. are prepared by the investigator and submitted to the secretary of the association. Duplicate copies of these projects are made and a copy submitted to each member of the Research Council with instructions that these projects are to be carefully reviewed and studied.

The comments, suggestions, criticisms or alterations that any council member may have are submitted in writing to the secretary of the council. These comments are summarized and forwarded to the secretary of the association with a copy to each member of the research committee and the chairman of the research council and to the president of the board of directors of the American Dehydrators Assn.

The chairman of the research committee studies and considers the comments and suggestions and confers with other members of the research committee for their advice and suggestions and for their approval or rejection of the project. The action of the research committee is forwarded to the secretary of the association who reports the action to the investigator or applicant for the grant-in-aid.

The action of the research committee is also forwarded to the members of the council.

The research committee meets several times a year to review and discuss projects and progress reports on projects. This is an excellent system of follow through to make certain that the projects are properly carried out and in the manner intended when the money for the project was granted.

The meetings of the research committee have been held in Kansas City, Chicago, and Lincoln, Neb. During June, 1951, the research committee spent one day at the University of Nebraska meeting with the leading investigators of Nebraska Agricultural Experiment Station to discuss research on alfalfa. This state is one of the leaders in the production of dehydrated alfalfa.

The Alfalfa Research Council has also sponsored a bibliography on alfalfa which has been very helpful to the investigators and students of alfalfa.

As a member of the feed industry and member of the Alfalfa Research Council, it is a real challenging and pleasant opportunity to be of technical assistance to the great and growing alfalfa dehydration industry.

Alfalfa

DEHYDRATED AND SUNCURED

We want to take this opportunity to congratulate the alfalfa industry on the 10th anniversary of the founding of the American Dehydrators Association. As sales service specialists in Dehydrated and Suncured Meal, we value your friendship and pledge our support of your worthwhile projects which have caused the alfalfa processors to expand and become a more vital part of the animal and poultry feeding industry.

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ADA Research Projects

Title of Project	Conducted by
Dehydrated Alfalfa Meal for Brood Sows.	Iowa Agricultural Experiment Station.
A Study to Determine the Toxicity of Chemical Antioxidants Found Effective as Carotene Stabilizing Agents for Alfalfa.	Colorado Agricultural Experiment Station.
Utilization of Carotene in the Animal Body.	Colorado Agricultural Experiment Station.
Study of the Distinction and Importance of the So-called "Growth Inhibitor" in Alfalfa and Means of Overcoming It.	Colorado Agricultural Experiment Station.
Vitamins in Swine Nutrition.	University of Illinois.
The Nutritive Value of Dehydrated Alfalfa Meal in Swine Nutrition.	University of Illinois.
The Nutritional Value of Dehydrated Alfalfa Meal as a Source of Vitamin B_{12}, Folic Acid and Biotin in Breeder Rations.	Texas Agricultural and Mechanical College.
The Value of Dehydrated Alfalfa Meal in Improving Digestion and Growth Rates of Beef Steers Fed Poor Roughage.	Texas Agricultural and Mechanical College.
Dehydrated Alfalfa Pellets as a Supplement for Wintering Ewes.	Montana State College.
Feeding Dehydrated Pellets to Sheep.	Montana State College.
The Effect of Feeding Four Levels of Dehydrated Alfalfa to Range Ewes.	Utah Agricultural Experiment Station.
A Study of Soil Factors Which Influence the Quality of Alfalfa and the Survival of the Plant.	Michigan State College.
Unidentified Growth Promoting Factors in Dehydrated Alfalfa for Chicks.	University of Arizona.
Effect of Trace Minerals Upon Vitamin A Losses in Stored Feeds.	South Dakota Agricultural Experiment Station.
The Value of Dehydrated Alfalfa Pellets as a Supplement to Dairy Cow Rations Comprising Non-Legume Roughages.	Kansas State College.
Chemical Investigation of the Lipid Fraction of Dehydrated Alfalfa.	Kansas State College.
A Study of Proteins in Alfalfa.	Kansas State College.
The Utilization of Dehydrated Alfalfa in the Dairy Cow Ration.	Kansas State College.
Nutritional Value of Alfalfa Fractions Other Than Carotene.	Nebraska Agricultural Experiment Station.
The Relation of Dehydrated Alfalfa Meal to the Occurrence of Urinary Calculi in Lambs and Steers.	Nebraska Agricultural Experiment Station.
Alfalfa Improvement and a Study of the Principles Involved.	Nebraska Agricultural Experiment Station.
Dehydrated Alfalfa in Lamb Fattening Rations.	Nebraska Agricultural Experiment Station.

PROJECT: Alfalfa Meal in Poultry Rations

LEADER: C. W. Ackerson

PLACE: University of Nebraska, Lincoln

The Nebraska Agricultural Experiment Station has used alfalfa meal in starter, growing and egg-laying rations for 30 years. The grades used started with the ground hay, and progressed through choice, sun-cured meal, leaf meal to dehydrated alfalfa meal. The use of 5% of alfalfa meal in chick rations and even higher levels, has been standard practice for years. Recently a trend in poultry feeding has been toward a high corn ration carrying little or no alfalfa. This trend prompted a study of the effect of alfalfa meal additions at various levels on growth in day-old chicks. The levels studied were 2, 3, 4, 5, 6, 9, 10, 12 and 15% of dehydrated alfalfa meal. In comparable lots no trend toward growth depression was evident when alfalfa was added in the increasing amounts given above.

In addition duplicate trials of four lots were made on pelleted rations carrying 0, 2, 4 and 6% dehydrated alfalfa. In each of the duplicate trials the lots fed 2% alfalfa made slightly better gains than the other lots. The lots fed 4 and 6% alfalfa made as good growth as the controls fed no alfalfa. Another trial was

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Dallas, Texas

made with rations containing 0, 5, 10 and 15% alfalfa meal. In this test equal gains were made by each of the alfalfa-fed lots and all made better gains than the control without alfalfa. Furthermore, the alfalfa-fed lots consumed equal amounts of feed in less time than the controls.

It was concluded that no inhibition of growth was noted in day-old chicks fed mash or pelleted rations containing up to 15% of a good quality dehydrated meal. This station continues to recommend the inclusion of 5% of a 17% protein alfalfa meal carrying the equivalent of 100,000 I.U. of vitamin A per pound in chick and laying mashes.

Levels of alfalfa meal up to 15% of the ration have not been shown to affect growth adversely at this station. Higher levels, 20% or more, have resulted in growth depression. Attempts to determine the nature of the depressing factor were made. It was found that meals extracted with hot water gave better growth at high levels of feeding than non-extracted meals. Feeding saponin, thought by some to be the toxic factor, did not depress chick growth.

(Note: Dr. C. W. Ackerson is head of the department of agricultural chemistry at the University of Nebraska.)

• • • • • •

PROJECT: The Nutritional Value of Dehydrated Alfalfa Leaf Meal as a Source of Vitamin B_{12}, Folic Acid and Biotin in Breeder Rations for Chickens and Turkeys

LEADER: J. R. Couch

PLACE: Texas A. & M. College, College Station

This work is being supported jointly by a grant-in-aid from the American Dehydrators Assn. and the funds from the Texas Agricultural Experiment Station. The work is being carried on under Texas Agricultural Experiment Station Project 788.

During the first year, studies were carried out on the use of alfalfa in breeder rations for both chickens and turkeys. Seventy-two Single Comb White Leghorn hens were used in the chicken study and 60 Beltsville White turkey hens were used in the turkey study. A summary of the results from the first year's study follows:

The folic acid content of the egg yolk appeared to be related to the level of dehydrated alfalfa leaf meal in the diet of the hens. The vitamin B_{12} content of egg yolk was influenced by the feeding of dehydrated alfalfa leaf meal and was definitely increased when vitamin B_{12} was added to the ration. From the hatchability data it appears that dehydrated alfalfa leaf meal may contain or promote the synthesis of an unidentified factor required for embryonic development and normal hatchability in chicken eggs.

The feeding of 10% dehydrated alfalfa leaf meal improved the egg production of turkey hens in this study although hatchability of the turkey eggs was not influenced appreciably by feeding dehydrated alfalfa leaf meal.

It should be emphasized that the Single Comb White Leghorns were kept in individual laying cages with raised screen botttoms and thus did not have access to the feces, whereas the Beltsville White turkey hens were kept in houses on litter and thus had access to the feces. The latter may explain the reason for alfalfa not exerting any effect on the hatchability of the turkey eggs.

J. R. Couch

These studies are being continued. The second year experiments with Single Comb White Leghorn hens started about Nov. 1, 1951, and with the turkey hens will start about Jan. 1, 1952.

(Note: Dr. J. R. Couch is professor of poultry husbandry at Texas A. & M.)

STICKING A NECK OUT—In a research project supported by the American Dehydrators Assn. at the Utah Agricultural Experiment Station, these sheep were fed through this portable stockade, which was moved about the range with the flocks during the season.

PROJECT: Unidentified Growth Promoting Factors in Dehydrated Alfalfa for Chicks

LEADER: A. R. Kemmerer

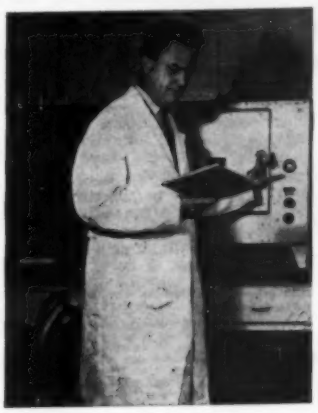
PLACE: College of Agriculture, University of Arizona

The purpose of the work at Arizona is to determine if dehydrated alfalfa leaf meal contains factors yet unidentified which will stimulate growth in chicks. Bowland et al have found that alfalfa stimulates the growth of rats fed purified diets. Kohler and Graham recently reported that fresh alfalfa contains chick growth factors which are destroyed during dehydration.

For the work at Arizona, alfalfa grown in irrigated plots has been collected at various stages of growth and at various seasons of the year. Some samples have been blanched with hot water and then dehydrated and some steam blanched and dehydrated. Two basal diets have been used; in one dried brewers yeast was used as a source of B complex vitamins and in the other a mixture of pure crystalline preparations of B vitamins was used. Both diets were complete in all the known factors necessary for growing chicks.

From four experiments it is indicated that dehydrated alfalfa contains factors which stimulate the growth rate of chicks. The results were more definite for the chicks which were reared on the diets containing crystalline B vitamins than for the chicks which were reared on the diets which contained yeast as a source of the B vitamins. It was apparent from the experiments that the yeast also contained the growth factors.

The data from the four experiments also indicated that the amount of the growth promoting factors in the alfalfa is affected by experimental conditions some of which are not yet determined. The method of blanching had no measureable effect. Vitamin A-deficient chicks seemed to respond more distinctly to the growth factor than non-depleted chicks. However, vitamin A was not a factor since adequate amounts of carotene were supplied.



A. R. Kemmerer

Further studies may show that dehydration procedures and growing conditions have an effect on the content of the growth factors.

(Note: Dr. A. R. Kemmerer is head of the nutrition department at Arizona.)

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PROJECT: Dehydrated Alfalfa in Lamb Fattening Rations

LEADERS: D. R. Warner, Lionel Harris, Vance Pumphrey and M. A. Alexander

PLACE: University of Nebraska, Lincoln

Dehydrated alfalfa has been compared with chopped alfalfa hay in lamb fattening rations during two winter feeding trials, 1949-50 and 1950-51, at the Scotts Bluff Nebraska Field Station. The alfalfa products were fed as a part of the roughage portion of the rations that included either corn silage or beet top silage. The chopped alfalfa hay was fed at the rate of 0.5 lb. per lamb daily. The amount of dehydrated alfalfa fed per lamb daily was 0.45 lb. per lamb or 90% the amount of alfalfa hay fed to furnish a comparable amount of daily protein.

Improved Navajo feeder lambs, averaging 6 lb. at the beginning of the feeding trial, were used in 1949-50. Good quality, white-faced Wyoming feeder lambs averaging 73 lbs. per lamb were used in the 1950-51 trial. In both trials, each lot initially contained 45 lambs.

In the 1949-50 feeding trial (Table 1) for the corn silage lots the average daily gain for the lambs fed dehydrated alfalfa was 0.34 lb. compared to 0.30 lb. for the lambs receiving chopped alfalfa hay. With beet top silage the average daily gain was 0.32 lb. for the lambs receiving dehydrated alfalfa and 0.31 lb. for the alfalfa hay lot.

Considering the feed required per 100 lbs. gain, the data show that 100 lbs. of dehydrated alfalfa meal replaced or saved 30 lbs. of grain mixture, 8 lbs. of soybean meal, 94 lbs. of silage and 138 lbs. of alfalfa hay when corn silage was fed. With beet top silage 12 lbs. of grain mixture, 2 lbs. of soybean meal, 120 lbs. of alfalfa hay were saved and 12 more lbs. of silage was required by each 100 lb. of dehydrated alfalfa.

Considerable death loss occurred from listerellosis during this feeding trial. The disease does not seem to be associated with the presence or absence of the feeds used, but the disease may have affected the true gains from the rations.

A pelleted dehydrated alfalfa product was fed during the 1950-51 trial (Table 2). The lots of lambs receiving the dehydrated pellets made average daily gains of 0.36 lb. (corn silage) and 0.39 lb. (beet top silage) compared to 0.31 lb. and 0.33 lb. respectively for the two lots fed chopped alfalfa hay.

With reference to feed required per 100 lbs. gain for the 1950-51 trial, when corn silage was fed, 100 lbs. of dehydrated alfalfa pellets replaced or saved 28 lbs. of corn, 10 lbs. of cottonseed meal, 168 lbs. of silage and 132 lbs. of alfalfa hay. With beet top silage, 100 lbs. of dehydrated pellets replaced 31 lbs. of corn, 11 lbs. of cottonseed meal, 305 lbs. of silage and 136 lbs. of alfalfa hay.

These data giving the relative rate and efficiency of gains indicate favorable results from the use of dehydrated alfalfa for fattening lambs. The costs of the various feed ingredients used to calculate relative feed costs per unit gain must also be considered by the lamb feeder when deciding upon the extent that dehydrated alfalfa can economically be included in lamb fattening rations.

(Note: D. R. Warner and M. A. Alexander are on the staff of the animal husbandry department at the University of Nebraska. Lionel Harris is supervisor of the Scotts Bluff Field Station and the active supervisor of the experiments. Vance Pumphrey is assistant at the Scotts Bluff station and in charge of conducting the experiments.)

Table 1—Dehydrated Alfalfa Meal vs. Alfalfa Hay in Corn and Beet-Top Silage Rations for Fattening Lambs (Nov. 18, 1949, to March 1, 1950)

Lot number	7	11	8	12
Lambs per lot	45	45	45	45
Days on feed	103	103	103	103
Average initial weight per head	66.1	66.0	66.0	66.0
Average final weight per head	97.8	98.9	96.5	100.9
Average gain per head	31.7	32.9	30.5	34.9
Average daily gain per head	.308	.319	.296	.339
Average daily ration, lb.—				
Grain mixture*	1.06	1.05	1.05	1.07
Soybean oil meal	.24	.24	.25	.25
Corn silage	...	...	2.74	2.71
Beet top silage	2.76	2.91	...	...
Alfalfa hay	.52	...	.54	...
Dehydrated alfalfa	...	.45	...	.45
Feed required per 100 lb. gain—				
Grain mixture*	345.5	328.6	354.9	315.5
Soybean oil meal	79.3	76.9	83.5	73.3
Corn silage	...	...	924.6	800.9
Beet top silage	895.5	913.2	...	...
Alfalfa hay	170.3	...	181.9	...
Dehydrated alfalfa	...	142.3	...	131.8
Death loss—				
Died from Listerellosis	2	8	4	2
Died or removed for other causes	0	1	1	1

*Grain mixture was ⅓ corn, barley and dried beet pulp by weight.

Table 2—Dehydrated Alfalfa Pellets vs. Alfalfa Hay in Corn and Beet-Top Silage Rations for Fattening Lambs (Nov. 10, 1950, to Feb. 2, 1951)

Lot number	1	2	5	6
Lambs per lot	45	45	45	45
Days on feed	84	84	84	84
Average initial weight per head	73.1	73.4	73.3	72.8
Average final weight per head	98.8	103.7	100.6	105.6
Average gain per head	25.7	30.3	27.3	32.8
Average daily gain per head	.306	.361	.325	.391
Average daily ration, lb.—				
Shelled corn	.69	.69	.69	.69
Cottonseed oil meal	.24	.24	.24	.24
Bone meal and salt	.044	.044	.044	.044
Corn silage	4.15	4.16	...	...
Beet top silage	...	...	6.21	6.12
Alfalfa hay, chopped	.50	...	.50	...
Dehydrated alfalfa pellets	...	.44	...	.44
Feed required per 100 lb. gain—				
Shelled corn	224.7	190.0	211.1	175.5
Cottonseed oil meal	79.9	67.7	75.3	62.5
Bone meal and salt	14.8	13.6	14.1	11.6
Corn silage	1,358.1	1,151.8	...	...
Beet top silage	...	...	1,909.6	1,563.2
Alfalfa hay, chopped	162.6	...	154.4	...
Dehydrated alfalfa pellets	...	122.8	...	113.6
Lamb losses—				
Urinary calculi (died or severe symptoms)	0	0	3	1**
Listerellosis	0	1	4*	0
Unknown	0	0	1	1

*One lamb also had urinary calculi. **Showed severe symptoms of urinary calculi, but recovered and marketed successfully.

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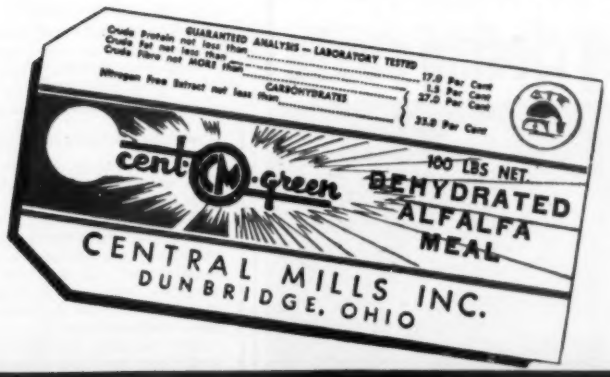
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PROJECT: Utilization of Carotene in the Animal Body

LEADERS: Paul R. Frey and Ivan Madsen

PLACE: Colorado Agricultural Experiment Station, Fort Collins

Investigations conducted at the Colorado Agricultural Experiment Station have shown that when chickens are fed dehydrated alfalfa meal the carotene is utilized more efficiently as a source of vitamin A than is pure carotene or carotene obtained from a number of other natural sources. Dehydrated alfalfa meal is therefore a good source of provitamin A for the poultry industry. The amount of vitamin A in the blood of an animal, when fed on rations containing a known amount of carotene, is commonly used as a measure of utilization.

On the basis of the above work the assumption has been made that alfalfa contains a substance which enables an animal to more efficiently utilize carotene as a source of vitamin A activity. Experimental work is now in progress, supported in part by a grant from the American Dehydrators Assn., to isolate the substance, determine its properties, mode of action within the body, and ultimately identify it as a pure chemical substance. Preliminary studies have shown that the substance is heat stable and insoluble in water.

The general approach to the problem of isolating the substance has been one of elimination. In the first study dehydrated alfalfa meal was extracted with acetone and the extracted material recovered by evaporation of the solvent. The extracted material and the alfalfa residue were fed to day-old, single-comb, White Leghorn cockerels; using positive and negative control pens. It was found that the acetone residue maintained blood levels in the birds equal to that of dehydrated alfalfa meal, thus showing that the substance enhancing the utilization of carotene was contained in the acetone extract.

In a following study the acetone extract was saponified with alcoholic potassium hydroxide. Carotene was removed from the saponified mass with petroleum ether, followed by extraction of the residue with diethyl ether. Chick feeding trials showed that the carotene in the petroleum ether fraction was utilized only to about the same extent as pure carotene. However, the diethyl ether fraction, when fed in combination with the petroleum ether fraction, gave a decided increase in the utilization of the carotene. This would indicate that the diethyl ether fraction contained the substance sought. Further work is in progress.

The identification of a substance which enhances utilization of carotene in the animal body, regardless of mode of action, would have wide application in the field of animal nutrition.

(Note: Dr. Paul R. Frey is in the chemistry section at the Colorado Station and Ivan Madsen is in the poultry section.)

Paul R. Frey

Additional reports on American Dehydrators Assn. research projects appear in this section starting on page 40a.

BOOK HAS CHAPTER ON FORAGE DEHYDRATION

MANHATTAN, KANSAS — Dr. Ralph Silker, head of the department of chemistry, Kansas State College, has written a chapter entitled "Dehydration of Forage Crops," in a new book, "Forages." Fifty five authors have contributed to the 724-page book.

NEW DIRECTORY

KANSAS CITY—A new list of all the alfalfa dehydrators in the U.S. and Canada has been compiled by the American Dehydrators Assn. It is being mailed to active and associate members of the association this month.

IN OMAHA PAPER

OMAHA—A story and pictures of alfalfa dehydration were carried in the rotogravure section of the Omaha World Herald last month.

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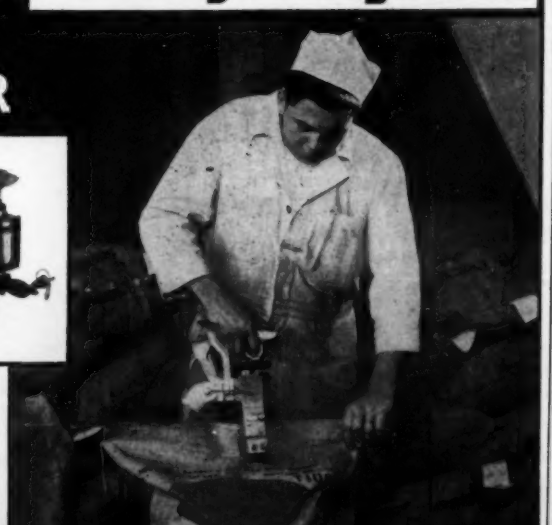

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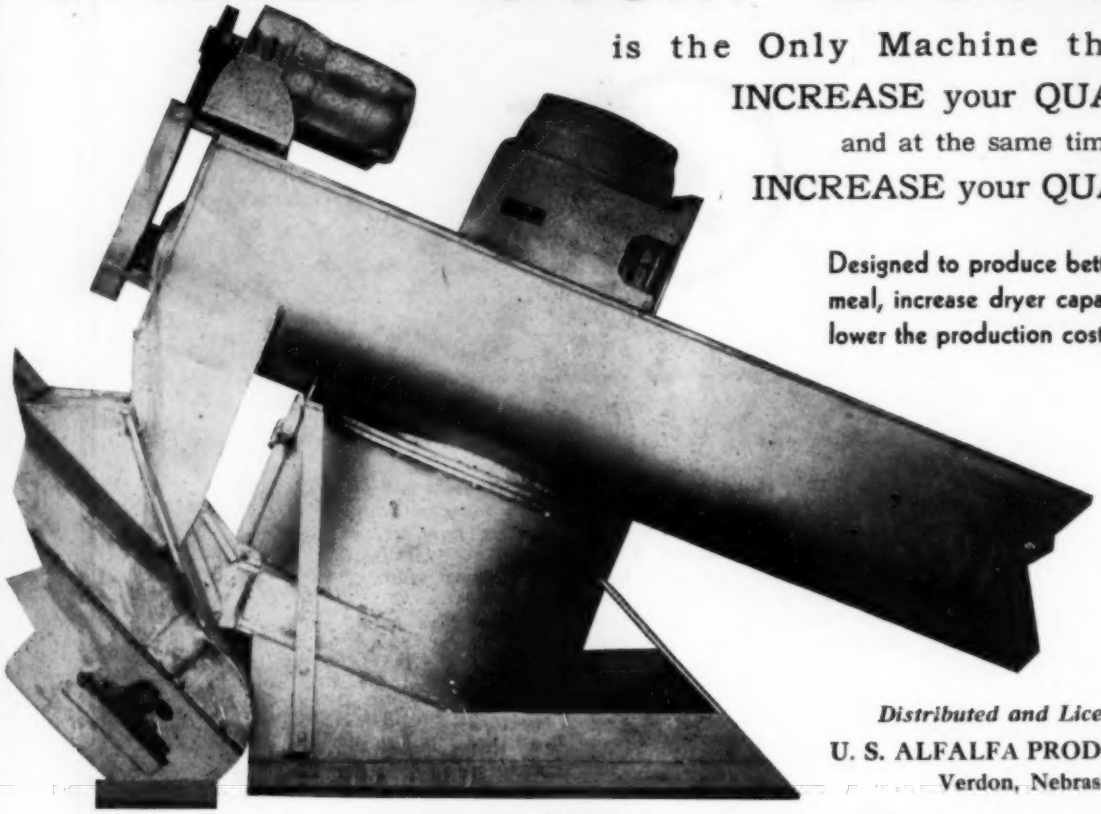

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The Utilization of Dehydrated Alfalfa Meal

DEHYDRATED ALFALFA MEAL IN POULTRY RATIONS

WITH today's management methods by which both growing chicks and laying hens are kept continuously indoors, it is necessary to provide ingredients in their rations which will at least partially take the place of fresh green forage. Dehydrated alfalfa meal is admirably adapted to this purpose. If properly processed and stored, it is one of the best known sources of carotene for poultry, and largely for this reason it has become a common ingredient of rations for both chicks and hens.

It is also a good source of riboflavin, niacin, pantothenic acid, choline and other known and unknown nutrients, and many feeders have therefore used it at levels considerably higher than are necessary to furnish the needed carotene. Only milk products and yeast are significantly better natural sources of riboflavin. Good quality alfalfa meal contains about as much choline as meat and bone meal and about three times as much corn per pound, though only about half as much as soybean oil meal.

When fed to chicks in excess of 10% of the ration, alfalfa meal has often resulted in reduced growth, along with a lowered efficiency of feed utilization, but the advantages of alfalfa as a feed ingredient have sometimes been more than enough to compensate.

Recent work has shown that there is some substance in alfalfa meal, which can be extracted with hot water, and which is responsible for growth depression when alfalfa is fed at levels as high as 20% of the total feed intake. Since alfalfa at such levels adds considerable bulk to a ration, it is difficult for chicks to eat enough of the bulky ration to get all the energy they need for rapid growth and mere bulk therefore contributes to growth depression.

In Illinois tests, when chicks fed a control ration were restricted to the same amount of feed that was voluntarily consumed by comparable chicks fed the high level of alfalfa, both lots made the same total gains. When pelleted rations were fed to chicks at the Nebraska station, chicks receiving 5, 10 or 15% of dehydrated alfalfa meal required 42, 39 and 37 days, respectively, to consume 900 gm. pellets as against 53 days for the chicks fed the control ration without alfalfa. These results suggest, even without our knowledge of the composition of alfalfa meal, that it contributes something to the growth requirements of chicks.

In a properly formulated ration, dehydrated alfalfa meal at a level of 5% is a valuable ingredient. Neither poultrymen nor feed manufacturers need have any concern about possible unfavorable effects on growth when it is used at this level.

AUTHOR—Dr. L. E. Card, author of the accompanying article on dehydrated alfalfa meal in poultry rations, is head of the animal science department of the University of Illinois. He formerly headed the poultry department there. He is a member of the research council of the American Dehydrators Assn.

Dr. L. E. Card

DEHYDRATED ALFALFA AND RUMINANT NUTRITION

THE nutritional improvement of standard growing and fattening rations for both sheep and cattle during the last decade lags far behind the almost unbelievable advances made in improved efficiency and rate of growth potential in poultry and swine rations. Many figures on gain and feed efficiency of fattening lambs and cattle reported today are no better than those reported in the literature 20 and 30 years ago, and some are actually inferior.

Adequate nutrition of ruminants in the past has been based largely on combinations of natural feeds—hays, grains, and protein supplements with free-choice feeding of mineral products. Additional supplements of vitamins and unidentified factors have largely been considered as unnecessary. This program has not produced improved performance of ruminant rations comparable to improvements in poultry and swine rations.

Animal geneticists are rapidly improving the potential ability of sheep and cattle for rapid gains and development, such as steers that will gain 3 to 4 lbs. a day and ram lambs that will gain 0.8 lb. a day. If we in ruminant nutrition are to contribute our share to this improvement program, every possible opportunity of improving the productive performance of the rations must be explored so that animals will have every chance of expressing their genetic ability for growth rate and efficiency.

When the protein and energy are balanced in a ration of hay, grain and protein supplements with free choice minerals, the success of the ration depends mainly on the quality of the roughage used. The quality of this roughage is determined largely by the stage of maturity, harvesting conditions, and the fertility of the soil on which it was grown. If the quality of the hay is excellent, the performance of the ration will be satisfactory according to present day standards. However, recent reports from several different areas well indicate that it is only a very small percentage of roughages used that are really quality roughages. This indicates then a tremendous need for ingredients and/or specific nutrients to be incorporated into ruminant rations to supply the nutrition of high quality roughage. In short—insurance against low quality roughage nutrition.

Dehydrated alfalfa is a feed ingredient which offers considerable promise of supplying a large part of this insurance against low quality roughage nutrition. Its place in poultry rations has already been well established. Research on this product in ruminant rations is only beginning, and much remains to be learned as to how it can be used most effectively and what levels should be used without wasting this valuable ingredient.

Preliminary work at the Montana Agricultural Experiment Station has indicated dehydrated alfalfa to be a valuable addition to lamb fattening rations when the concentrates were hand-fed. When 10% of dehydrated alfalfa pellets were included in the grain mixture of barley and oats, the daily gains were increased and the feed required per 100 lb. of gain was decreased so that the lambs getting dehydrated alfalfa returned $0.93 a head more than lambs getting no dehydrated alfalfa pellets. Adding 10% dehydrated alfalfa pellets to barley, oats and dried molasses beet pulp increased the return by $0.52 a lamb. These increased returns were with alfalfa hay as the roughage and the dehydrated alfalfa pellets cost $70 a ton.

Dehydrated alfalfa consumed was a little over .1 lb. a head a day. When the above concentrate mixtures were self-fed instead of hand-fed twice daily, there was no improvement in the ration from the inclusion of the dehydrated alfalfa pellets. The dehydrated alfalfa pellets used contained 20% protein and over 100,000 units of vitamin A a pound.

Research at the Nebraska Agricultural Experiment Station has indicated improvement in the performance of steers when dehydrated alfalfa was added to a ration already containing alfalfa hay. Considerable improvement has also been obtained at the same station with fattening lambs when dehydrated alfalfa was substituted for alfalfa hay in rations containing corn silage or beet top silage.

Ram lambs have gained as high as .82 lb. a day at the Montana Agricultural Experiment Station when self-fed a mixture of oats, barley, dried molasses beet pulp, linseed oil meal and 12% dehydrated alfalfa pellets. Grass hay was the roughage.

Continued research work will undoubtedly show many conditions under which dehydrated alfalfa will prove to be a profitable ingredient to be incorporated into ruminant rations. It will of course not improve any and all rations. Its usefulness will have to be determined through continued research.

Factors other than its nutritional assets must also be considered to obtain proper use of this product. These include such things as palatability, the best ways of incorporating into rations and the nutrient deficiencies of alfalfa.

Observations at the Montana Agricultural Experiment Station indicated that palatability must be considered to insure consumption. It was observed that when alfalfa

AUTHOR—Dr. William H. Burkitt, author of the accompanying article on dehydrated alfalfa meal in ruminant rations, is associated with the Ranch-Way Division of the Colorado Milling & Elevator Co., Denver. He was formerly head of the nutrition department of Montana State College, Bozeman, and was in charge of an alfalfa research project with sheep which was supported in part by the American Dehydrators Assn.

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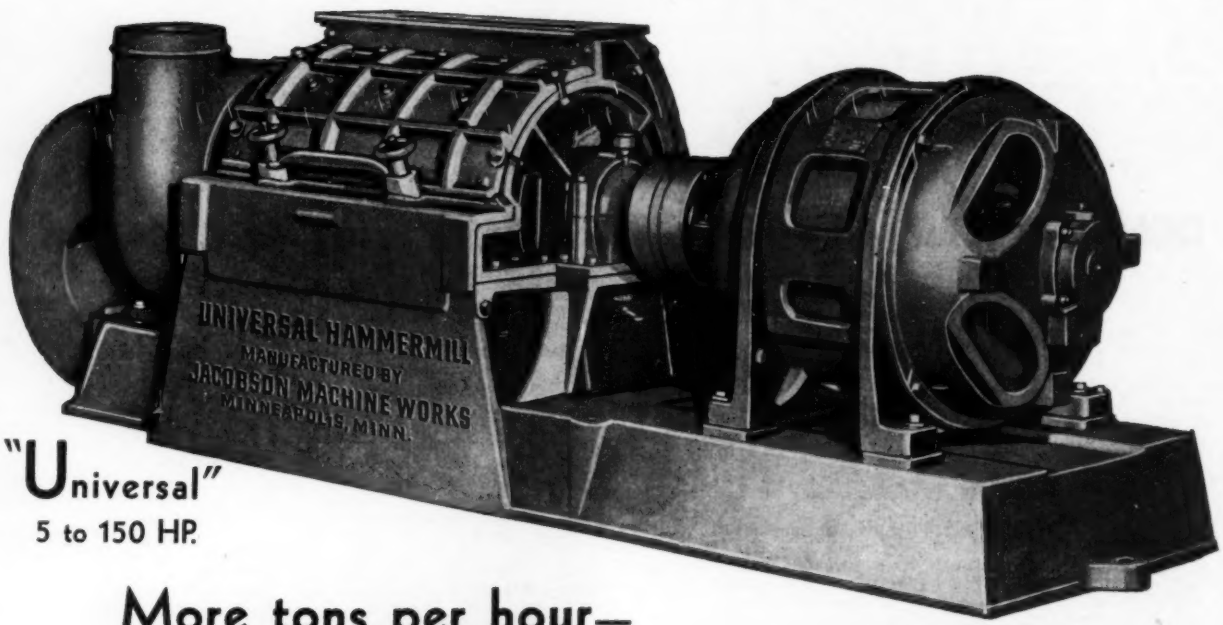

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HARVESTING ALFALFA—The plant is cut and then chopped and blown into the trailers, which are then detached and hauled to the dehydrating plant.

pellets were fed with whole grain to fattening lambs, the lambs consumed the pellet allowance but were not particularly over-anxious for them. There was a slight tendency for the pellets to accumulate in the trough of the self-feeder. When alfalfa pellets were fed with rolled grains, the lambs preferred the alfalfa pellets to the rolled grains.

This indicated the palatability of the pellets to be in between that of the whole grain and of the rolled grain. It was also found that some bulls were reluctant to consume alfalfa pellets incorporated with the concentrate mixture. Incorporating dehydrated alfalfa meal into the concentrate mixture and pelleting the entire mixture would eliminate these difficulties and insure that all animals are getting their portion of needed dehydrated alfalfa.

Alfalfa meal offers considerable promise as an ingredient in range supplements. Alone it is not an ideal range supplement because of its mineral balance of being high in calcium and relatively low in phosphorus, and because of its relatively low energy content. Range grasses, parficularly in the winter, are also generally high in calcium and low in phosphorus and energy. This means then that dehydrated alfalfa should be incorporated with other ingredients to supply additional energy and phosphorus.

The content and nutritional value of protein and carotene of dehydrated alfalfa are well recognized. It must be realized, however, that there are other very competitive sources of these two nutrients. With continued research, dehydrated alfalfa will undoubtedly be demanded for other essential factors in addition to its protein and carotene.

Quality dehydrated alfalfa is loaded with nutrition. Continued research will identify this nutrition and establish the deserved place of dehydrated alfalfa in the feed industry.

DEHYDRATED ALFALFA MEAL IN SWINE RATIONS

THE nutritional properties of dehydrated alfalfa meal make it a valuable ingredient in swine rations. If one wants to put pasture in the feed bag for drylot feeding, a high-quality dehydrated alfalfa meal should be used. Dehydrated alfalfa meal contributes a valuable unknown factor necessary for optimum brood sow performance, is a valuable source of essential B-vitamins, furnishes carotene in liberal amounts, supplies a high-quality protein that supplements the proteins of cereal grains and is a rich source of calcium.

Earlier experiments have shown that adding 10 to 15% high-quality alfalfa meal to rations fed to sows maintained in drylot through late growth, gestation and lactation continuously has improved performance. The addition of alfalfa meal has consistently increased the percentage survival to weaning age. This response has been observed when 10% high-quality dehydrated alfalfa meal was added to a basal ration apparently complete in all known factors. This suggests that high-quality dehydrated meal contains an unknown survival factor necessary for optimum gestation-lactation performance.

Alfalfa meal is a significant contributor to the water soluble vitamin content of swine rations for either the gestation-lactation or growing-fattening periods. High-quality dehydrated alfalfa meal is a particularly good source of pantothenic acid and riboflavin, the two B-vitamins most apt to be present in borderline amounts in usual swine rations.

For many years alfalfa meal was recommended as a supplement to drylot swine rations chiefly because it was a good source of carotene. Dehydrated alfalfa meal usually contains over 20 times as much carotene as does yellow corn.

Alfalfa meal protein is a good source of the amino acids tryptophane, lysine, arginine, methionine and cystine. The limiting amino acids in corn protein are tryptophane and lysine. The use of dehydrated alfalfa meal in swine rations therefore adds to the quantity and improves the quality of protein.

The National Research Council recommendations call for an allowance of 0.55 to 0.66% calcium in swine rations. Yellow dent corn contains only 0.02% calcium on the average. Dehydrated alfalfa meal averages about 1.5% calcium and thus may contribute part of the needed calcium in swine rations.

When dehydrated alfalfa meal is included as the main vitamin supplement, a minimum of 10% of this ingredient should be included in the drylot rations for swine of all ages.

AUTHOR—Dr. S. W. Terrill, author of the accompanying article, is head of the swine division, animal science department, University of Illinois, Urbana. He is author and co-author of numerous scientific papers in swine nutrition and management. Dr. Terrill is a 1940 graduate of Iowa State College. He went to Illinois in 1941, and prior to that had worked as a 4-H Club agent in Iowa.

Dr. S. W. Terrill

USE OF ALFALFA MEAL IN BEEF CATTLE FEEDING

AT the recent annual meeting of American Meat Institute, it was generally agreed that by 1960 the U.S. will need 30% more meat just to provide 144 lb. per capita to an estimated population of 180 million people. Where is this additional meat going to come from?

At the Purdue Agricultural Experiment Station it has been shown that by balancing the nutrient deficiencies of roughages, beef production per acre of corn can be almost doubled, especially if the corn is put up as ensilage. Fed a supplement containing soybean oil meal, molasses feed, bone meal, a vitamin A and D oil, and minerals including the trace elements, with silage steers gained 2 lbs. a day at a cost of only 18c lb.

Dry lot costs of fattening steers are almost double. The silage ration required the feeding of 3 lbs. of supplement a day. Using this system, 20 acres of corn put into the silo with the necessary supplement can be used to winter 100 steers for five months. Using a similar technique, grass silage produces almost 1,400 lbs. of beef to the acre.

Due to unsettled weather in the Corn Belt areas, the early hay crop is subject to losses of 30 to 40% of the nutrients, and sometimes the farmers lose the entire crop. The silo is a means of preserving most of the nutrients irrespective of weather conditions.

The producer of high grade dehydrated alfalfa meal can make his contribution by supplying an important ingredient of the supplement designed to balance the nutritional deficiencies of the roughages. Furthermore, dehydrated alfalfa meal, along with tankage and meat scraps, is vital to the efficiency of swine nutrition. By also adding antibiotics, hog men can produce 40 lbs. more gain on fattening pigs in 100 days.

Most of the runty pigs also can be eliminated, and these are quite a source of loss. Feeding antibiotics and Vitamin B_{12} will add 10 lbs. more weight to the weanling pigs. The use of antibiotics along with dehydrated alfalfa meal and high quality animal proteins also will result in larger litters.

The volume of meat production also will be increased through the use of improved pastures and irrigated pastures which, after all, are the backbone of low cost meat production. This system of meat production also is conducive to a better and more permanent type of agriculture.

I would recommend to the American Dehydrators Assn. further support of research especially directed to the working out of a supplement that would increase the efficiency of the huge tonnage of roughages produced on our farms each crop year.

AUTHOR—Dr. Jerry Sotola, author of the accompanying article, is associate director of the Livestock Bureau, Armour & Co., Chicago. He has an extensive background in livestock research. Prior to joining Armour in 1945 he was research director for Philip R. Park, Inc., and he was on the Washington State College staff.

Dr. Jerry Sotola

How to Use Dehydrated Alfalfa Meal in Modern Formulas

By C. W. Sievert and Dr. B. W. Fairbanks
of C. W. Sievert & Associates, Chicago

For Poultry Feeds

Broiler Feeds and Chick Starters:

Use a minimum of 2½% dehydrated alfalfa in broiler feeds and a maximum of 5% in chick starters. The nutrients contributed are taken into consideration in calculating protein, calcium, vitamin A and riboflavin content—dehydrated alfalfa is a good source of these—as well as the smaller amounts of the other nutrients it contains. Its color helps give the feed color and character, and its xanthophyl content helps pigmentation of shanks and skin.

Growing Feeds:

Use approximately 5% dehydrated alfalfa in growing mashes that are fed with added grain. If the birds are grown on good range this amount of alfalfa is still not excessive. If the range is poor then the alfalfa is of much benefit to the birds.

Laying Feeds:

Use 2½% dehydrated alfalfa on an all-mash basis. This means 5% in the ordinary 18% or 20% egg mash, 7½% in a 26% supplement and 10% in a 32% or 34% laying concentrate. Use it for its nutritional value, and enjoy the color and texture it helps give to the mash.

Breeding Feeds:

Use a minimum of 5% and a maximum of 10% in a 20% breeding mash. Many feeders like 7½%, which is an excellent amount. Dehydrated alfalfa furnishes several nutrients known to be needed for good hatchability. Using more of it in breeding mash than in ordinary laying mash also gives you a color differential that most feeders appreciate. These larger amounts of alfalfa need not lower palatability of the mash when consideration is given to other ingredients also in the formula.

Turkey Feeds:

In turkey starters use 5% dehydrated alfalfa meal. In growing mashes the same level works out well. If birds are grown in confinement it is well to increase the dehydrated alfalfa to 7½%. As the birds grow they will begin to eat additional grain. If they are to be grown on range then 5% alfalfa is enough but we recommend not less than that in order to take care of those instances—which are not infrequent—when range is short, or the flock is moved infrequently. More concentrated range feeds—26% and up to 32% protein—use more alfalfa. Ten to 15% dehydrated alfalfa is normal in those feeds. They are usually fed

An Editorial

THERE is one ingredient never to be overlooked in a sack of dehydrated alfalfa meal—the integrity and sincerity of its maker. It is our aim to keep ELK VALLEY the most respected name in Dehydrated Alfalfa Meal. To that end we devote our every effort in choice alfalfa selection, skillful processing and careful blending for constant uniformity. That's why the ELK VALLEY brand means *quality.*

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pelleted and these amounts of alfalfa will not interfere with palatability. Range pellets (26% to 28%) for use on poor range should contain from 15% to 20% dehydrated alfalfa. For turkey breeding rations use at least as much as for chickens, and increase the amount of dehydrated alfalfa a bit for better results.

Game Birds:

Use somewhat more alfalfa than for chickens, or at least as much as for turkeys.

Ducks:

Dehydrated alfalfa in feeds for ducks helps meet the nutritive needs and also helps pigmentation. A pasty white skin looks unappetizing, so use dehydrated alfalfa to help overcome it, and get the nutritive benefits it affords at the same time. From 5% to 7½% dehydrated alfalfa are good amounts to use after the first week or 10 days. We suggest not over 5% in the starter.

Pet Bird Feeds:

Feeds for canaries, parakeets and other pet birds are made up largely of seeds, but some prepared mash type feeds are known to be of value in growing these birds. Use dehydrated alfalfa in levels similar to chick feeds.

For Swine Feeds

Pig Starter:

The newest type of specialized pig feed is pig starter, which is made to fit nutritional requirements for very young pigs, using ingredients known to be very palatable. Use 2½% dehydrated alfalfa in such feed.

Pig Meal or Pig and Sow Meal:

This will contain 5% to 7½% dehydrated alfalfa.

Complete Sow Feed or a Gestation and Lactation Feed:

These need 5% alfalfa. The more concentrated feeds should have larger amounts of alfalfa. A pig and sow supplement containing 35% to 37% protein may well contain 20% to 25% dehydrated alfalfa meal. It would probably be too dusty in ground form and therefore is most useful pelleted.

Pasture Supplements:

Usually around 40% protein, these contain 5% to 15% alfalfa. The cheaper feeds contain small amounts of alfalfa and the better quality supplements contain dehydrated alfalfa to the extent of 10% or over. It makes the supplement safer to use nutritionally, increases its color and makes a better textured feed. Proper use of dehydrated alfalfa makes these supplements of the right texture and palatability so that free choice self feeding is fully satisfactory.

For Cattle Feeds

The need for carotene (pro-Vitamin A) is the major reason for using dehydrated alfalfa in feeding cattle or dairy cows. The amount to use in the formula will be such that an 800 to 1,000 lb. animal will get 1 lb. high grade dehydrated alfalfa a day. This will furnish minimum needs adequately. If your cattle supplement is to be fed at the rate of 4 lbs. a day, to cattle receiving roughage containing no carotene at all (corn cobs, stover, straw or brown hay) then the supplement should contain 25% dehydrated alfalfa. The same principle applies to dairy feed. As a rule it is only when excessive rainfall, or extreme drouth has ruined the quality of the roughage that we need to put over 10% dehydrated alfalfa into dairy feed. When dehydrated alfalfa is put into a dairy or steer feed it is used for nutritional reasons, and not as a roughage. Many good dairy feeds contain dehydrated alfalfa as a protection to the animals in case the hay or silage is of mediocre quality.

For Sheep Feed

The minimum carotene need, expressed as vitamin A units, is about 1000 I.U. per 100 lb. live weight per day. This is very similar to cattle. For reproduction appreciably more needs to be supplied. A sheep or lamb feed or supplement to be fed at the rate of 1 lb. a day per 100 lb. live weight, will do a good job when it contains 4% to 5% of dehydrated alfalfa. If fed at the rate of ½ lb. a day then use 7½ to 10% dehydrated alfalfa, and if it is designed to be fed at ¼ lb. a day then use 15% to 20% dehydrated alfalfa.

For Horse Feed

Horses also have carotene requirements similar to that of cattle or sheep on a body weight basis of about 1.5 mg. carotene a 100 lb. live weight per day. For reproduction and lactation about three times this amount should be allowed. Usually the roughage furnishes the carotene, but if the roughage is devoid of carotene then 1 lb. high grade dehydrated alfalfa a day (45 to 50 mg. carotene a lb., equivalent to 75,000 to 83,000 I.U. a lb.) will take care of a 1,000 lb. to 1,200 lb. mare in gestation or lactation. About one third that amount will suffice for growing foals or mature work horses.

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Summary of the Nutritional Values of Alfalfa Meal

By DR. R. M. BETHKE

Vice President in Charge of Research and Product Control, Ralston Purina Co., St. Louis

ALFALFA is one of the oldest forage crops and has long been recognized for its nutritional value by feeders of farm animals. Approximately 15 million acres are devoted to alfalfa production. A significant part of this production is dehydrated and used in feeds. Between 1943 and 1950 dehydrated alfalfa production increased more than three-fold—from 245,000 tons to 775,000 tons. This rapid increase in production and use is evidence that dehydrated alfalfa meal has an important place in the feeding of farm animals.

All commonly used feedstuffs contain some of the nutrients required by animals. Certain ones, however, are known largely because they are a good source of one nutrient; for example, soybean oil meal for protein and corn for its energy content. On the contrary, there are a few feed ingredients that are used because they contain a number of nutrients in usable quantity and quality all of which are worthy of consideration in a feed.

Wide Array of Nutrients

Dehydrated alfalfa is such an ingredient. It contains a wide array of nutrients—many of them in appreciable amounts. Aside from its protein and its rather liberal mineral content, dehydrated alfalfa is well known as an excellent source of carotene (provitamin A) and a very good source of riboflavin, vitamin E, and vitamin K. In addition, it contains larger amounts of water soluble vitamins: thiamine, niacin, pantothenic acid, pyridoxine, biotin, and folic acid than do grains. Choline and betaine are also present. In fact alfalfa meal is one of the best natural feed sources of betaine.

The type and length of storage are factors that affect the value of the meal—especially its carotene (provitamin A) content. High temperatures are conducive to carotene loss. It is possible for meal to lose 75% of its carotene content in six months or less if stored at a high (summer) temperature. Carotene can be preserved or the destruction can be retarded by: refrigeration of the meal, storage under inert gas, or the use of antioxidants. Recent studies at Kansas Station also indicate that oil meals such as soybean and cottonseed retard the loss of carotene. Minerals on the other hand tend to expedite the loss of carotene.

With the present-day production and storage facilities, it is possible to obtain alfalfa meal of a guaranteed carotene content (vitamin A activity) at the time of delivery the year around. The carotene content or vitamin A activity of alfalfa meal cannot be judged by color as some try to do. The only dependable way is to have it analyzed for its carotene content.

In addition to carotene and the vitamin B complex factors which are very important in the nutrition of swine and poultry, dehydrated alfalfa is an excellent source of xanthophyll—a yellow pigment which gives color to the shanks and skins of broilers and yolks of eggs.

The Colorado Station recently reported results which indicate that alfalfa contains a factor or produces conditions in the digestive tract of the chicken which increase the efficiency of the utilization of carotene as a source of vitamin A activity.

Some recent reports from the Arizona Station and other observations by various research institutions suggest that dehydrated alfalfa contains an unidentified factor(s) essential in poultry nutrition.

That high quality alfalfa has an important and essential place in brood sow and swine rations has been reported and stressed by workers at Missouri, Illinois, Iowa, Indiana and other experiment stations.

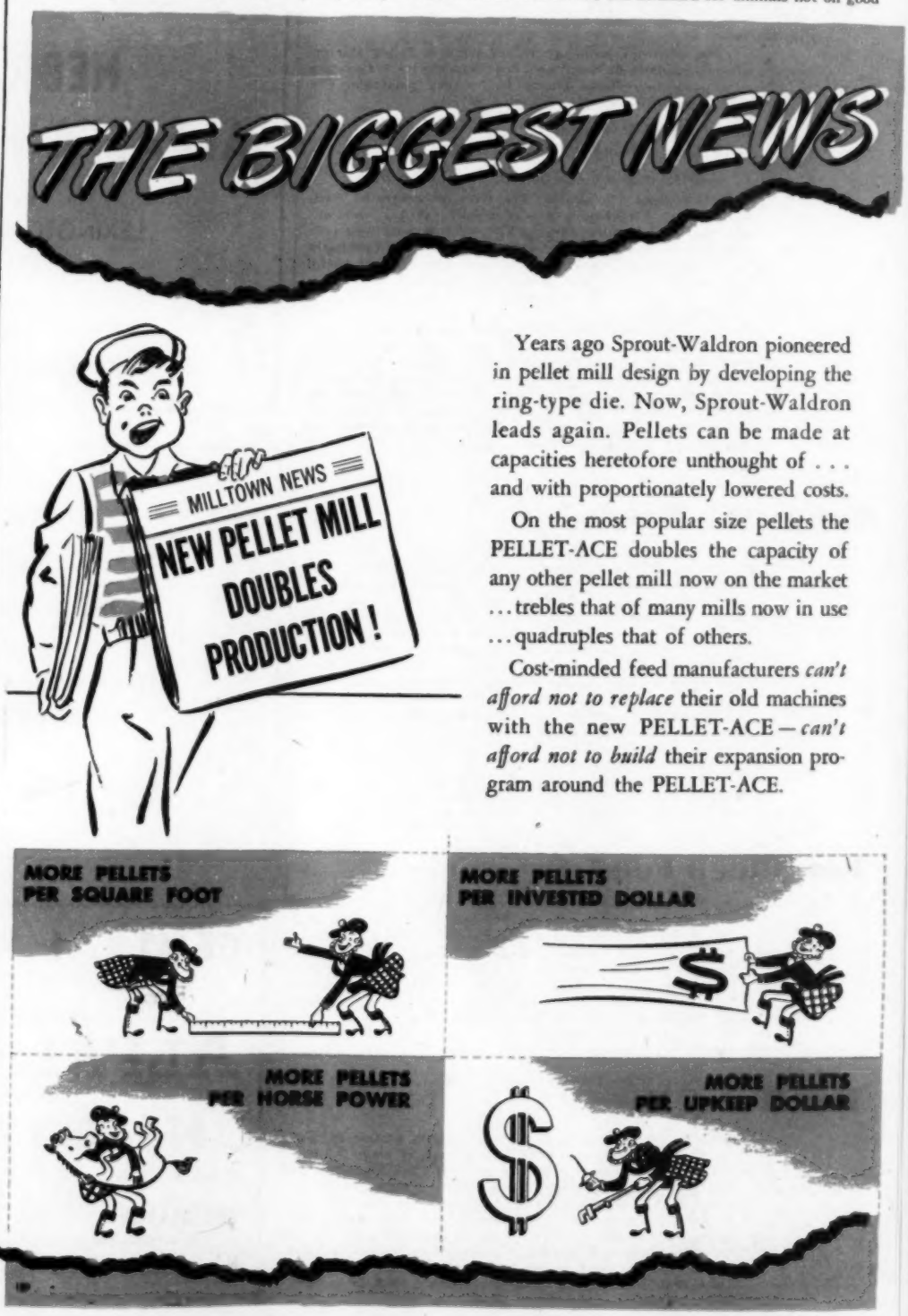
Recent work at the Nebraska and Ohio Stations also indicates that good dehydrated alfalfa meal exerts a beneficial effect in cattle fattening rations which cannot be accounted for entirely on the basis of proteins or vitamins. It is possible that the meal might contribute mineral constituents which make for a more favorable rumen function so that the microflora of the paunch can do a more efficient job of making nutrients available to the host animal.

Within recent years there have appeared reports that alfalfa meal may carry a factor which acts as a growth depressant in young chicks. In general, growth in young chicks has not been affected adversely when the alfalfa meal was limited to 3% of the ration. The Colorado Station in a study of nearly 100 different alfalfa meals, both dehydrated and sun-cured, observed that some meals (both dehydrated and sun-cured) were worse in this respect than others. No correlation was found with either method of dehydration, soil or weather. In my opinion these observations should not prevent anyone from using alfalfa meal in chick or other rations. All that is required is judicious use—which applies equally to other valuable feed ingredients.

Has a Definite Place

Research studies and practical experience and results have shown that dehydrated alfalfa meal, because of its nutrient content, has a definite place in many feeds. To my mind, all poultry and swine feeds which are intended for animals not on good

Dr. R. M. Bethke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green pasture should contain dehydrated alfalfa meal. The amount to use will vary with the type of feed. Starting chick and broiler mashes may carry from 2.5 to 5.0%, turkey starter around 5.0%, growing chicken and turkey feeds from 5 to 7.50%, and laying and breeding mashes fed with about equal grain from 5 to 10%. Complete pig starting and growing feeds can well carry 5.0% alfalfa meal. Supplements to be fed with grain may well carry up to 15-20% of alfalfa meal. In case of ruminants probably the main deciding factor on the use of dehydrated alfalfa is whether the hay or roughage used in the nonpasture season contains adequate carotene (provitamin A) to meet the needs of gestation resulting in the birth of strong and healthy calves and lambs.

The nutritional merits of good quality dehydrated alfalfa meal are well established and recognized and it is up to the feed manufacturer and feeder to put this information to use in the efficient production of animals and animal products.

(Text of an address presented at the recent Wisconsin Nutrition Conference.)

ADA HEAD ASKS FOR EMPHASIS ON SOILS

KANSAS CITY—Joseph Chrisman, Cerophyl Laboratories, Inc., Kansas City, president of the American Dehydrators Assn., has pointed out the danger of losing sight of soil fertility in a stepped-up production program.

"We must maintain good cover crops and other soil building crops, and we must not destroy the capital investment we have in soil fertility," he said.

EXEMPT FROM REGISTRATION

Registration of alfalfa meal no longer is required in the state of New York. However, the New York Bureau of Food Control, Department of Agriculture and Markets, registers alfalfa meal as a public service if voluntary applications are made.

IMPROVES CATTLE RATIONS

CHICAGO—Jerry Sotola, assistant director, Armour's livestock bureau, Chicago, has reported that many commercial cattle feeders have discovered that by feeding one or two pounds of dehydrated alfalfa meal in the cattle rations they can speed up the gains, improve the health picture and reduce death losses.

ADA RESEARCH

KANSAS CITY—During the past two years 23 projects have been submitted from 15 state agricultural experiment stations and universities to the research organizaation of the American Dehydrators Assn., and 18 of these have been approved.

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More Than Carotene in Alfalfa Meal Valuable for Poultry

By H. R. BIRD

Bureau of Animal Industry
U. S. Department of Agriculture
Beltsville, Md.

ONLY a few years ago the diet of most chickens consisted of grains and whatever else they could find—animal, vegetable or mineral. As chickens were kept in closer and closer confinement it was necessary to try to duplicate and improve upon this varied diet by formulating suitable mash feeds.

Alfalfa meal in mashes took the place of growing grass that was a part of earlier diets. The early formulation of mashes and inclusion of alfalfa in them was largely based on trial and error. Much of the present information on nutritive requirements was not available. The choice of alfalfa for this purpose was probably based on its high yield per acre and its ability to retain its green color during sun-drying or dehydration as well as on an appreciation of its nutritive value for livestock.

Eat Less Grain

Chickens on the best range eat about 10% less grain and mash than they would eat in confinement. Presumably they derive 10% of their diet from the range, but this 10% would not all be green feed. Probably chickens that receive 8% of alfalfa meal in their diet get as much green feed as do chickens on the best range. Relatively few chickens get that much alfalfa meal. Many more get 3 to 5%. Even these are probably benefited more by their supply of green feed than were their ancestors on grass range, because of seasonal and geographic variations in pasture and because of the very important achievement of the dehydrating industry in standardizing alfalfa meal.

Enough is known now about the dietary requirements of poultry to make it possible to look at alfalfa meal not only as a replacement for pasture but also as a source of certain specific nutrients. The most important nutrient it supplies in the diet of chickens is carotene. It is a good source of riboflavin, but sources of this vitamin are abundant and inexpensive. It is a good source of some other water-soluble vitamins and of vitamin E. Ordinarily, these are supplied by grains and protein supplements but vitamin E is not always adequately supplied. The protein of alfalfa is of high quality, but the quantity supplied by the usual levels of meal is small.

Good Carotene Source

This brief look at the known nutrients supplied by alfalfa meal emphasizes the importance of its carotene content. It is very important to the feed and livestock industries as a carotene source. But the dehydrating industry will be in a dangerous position if it regards alfalfa meal solely as a carotene source. There has always been competition from fish oil vitamin A, and now the synthetic vitamin is entering the field.

There are a number of reports that alfalfa meal contains an unknown factor that benefits reproduction of chickens. Further investigation of this subject should be a matter of great interest to the dehydrating industry.

Another virtue of alfalfa meal that has been too little emphasized is its content of xanthophyl, the pigment responsible for the yellow color of the skin and shanks of chickens.

(Summary of an address presented at the Texas Nutrition Conference, Oct. 27, 1951.)

What Is Good Dehydrated Alfalfa Worth?

EDITOR'S NOTE: In 1946 at the convention of the American Dehydrators Assn. in St. Louis, Dr. J. E. Hunter, director of research for Allied Mills, Inc., Chicago, made a talk which gave an inventory of some of the major nutritional factors of alfalfa meal and their total market value. The discussion attracted wide attention, was reprinted by the American Dehydrators Assn. and proved an interesting and valuable appraisal of the true monetary value of the product. Using the method employed by Dr. Hunter at that time, and present prices, we have recalculated the inventory.

THE value of good, high quality dehydrated alfalfa meal is not too well known nor too well appreciated by feeders in general or by many feed manufacturers. Many buyers of alfalfa for use in feeds for poultry and swine have largely been interested in three things:

(1) How much Vitamin A activity does it contain?

(2) How green is the color?

(3) How much does it cost?

The answers to these three questions do not do full justice to the nutritional value of alfalfa.

Volumes have been written on alfalfa meal for swine or poultry, and clever nutritionists know that hog and poultry feeds are made better because of the use of good alfalfa in the formula, but the average feed buyer still thinks of alfalfa primarily as a source of vitamin A activity.

Good dehydrated alfalfa meal is an excellent source of vitamin A activity, but isn't it about time to kick the bushel measure away and cease hiding the light of alfalfa's virtues? Service can be rendered to the feed buying public by giving publicity to the many virtues of alfalfa that exist over and above its vitamin A value.

If you want to play a game with yourself that may, after it is completed, provide you with a greater appreciation of this product, just take a pencil and some paper and start jotting down the cash value of all the things that are contained in a ton of dehydrated alfalfa meal, add them up and prepare yourself for a little shock.

In playing this little game, some rules should be set up. One can cheat in solitaire, but it isn't much fun. In carrying out these calculations to determine the dollars and cents value of the nutritional factors in a ton of dehydrated meal, let's be completely fair and make our calculations on the basis of the cheapest other sources of the food factors. As a starter why not make up an inventory sheet listing the things that are in dehydrated alfalfa meal that are worth "folding money"?

What Is a Ton Worth?

(1) Every percent of alfalfa used in a feed replaces something else and contributes weight in a ton of feed. That is not very complicated, but as a start in our figuring we should assume that alfalfa does have value on the basis of its weight in addition to the food factors supplied. Why not first assume that alfalfa because of its weight has a value per ton equal to that of some inexpensive carbohydrate feed such as grains. In making this calculation, let us compare alfalfa meal with standard middlings, which is priced economically among feeds of this type today at $59 a ton. Standard middlings average about 17% protein, so there is no difference in protein content to take into consideration in making this comparison as a formula feed ingredient. Thus, as a starter in our game, we have arrived at a base price which will perhaps be in the neighborhood of $59 a ton.

(2) Now suppose we start calculating the value of vitamin A activity in our ton of good dehydrated alfalfa meal. Suppose we consider a dehydrated meal containing 100,000 units of vitamin A activity per pound. This amounts to 200,000,000 per ton. A fair figure of the value of this is 13c per million units. You will find that by this calculation you have $26 to be added to the value already set up from step number one.

(3) Dehydrated alfalfa meal is an excellent source of riboflavin. Riboflavin is worth money and the riboflavin contributed in feeds by alfalfa lessens the amount that a feed manufacturer or mixer needs to buy elsewhere. Good dehydrated alfalfa meal contains about 6.70 mgs. per pound according to some authorities on this subject. Pure riboflavin can be purchased from synthetic sources for about 12.5c per gram. So, in this calculation, we have $1.66 more to add to the values we have gotten from previous steps in our figuring.

(4) We are still going strong and not too far away from the starting point. Pantothenic acid is a valuable vitamin factor and there is lots of it in dehydrated alfalfa meal. Good meal would contain 16 mgs. per pound of this factor which can be bought from chemical houses at 6c per gram. That makes $1.92 more to add to our total.

(5) Dehydrated alfalfa meal contains some niacin. Some authorities

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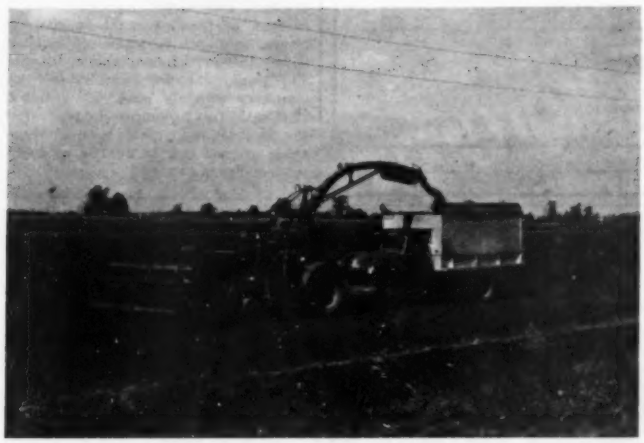
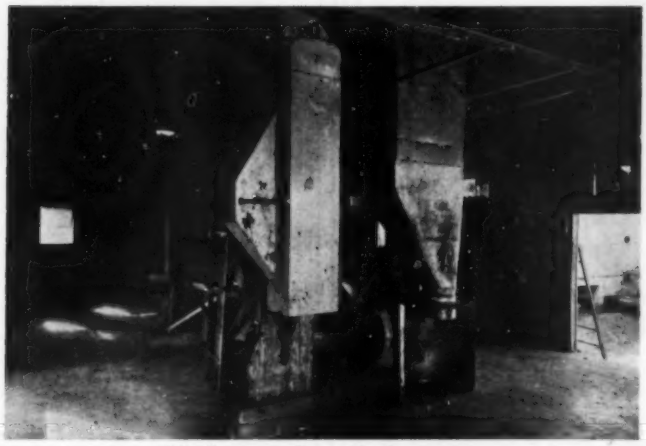


Modern harvesting equipment



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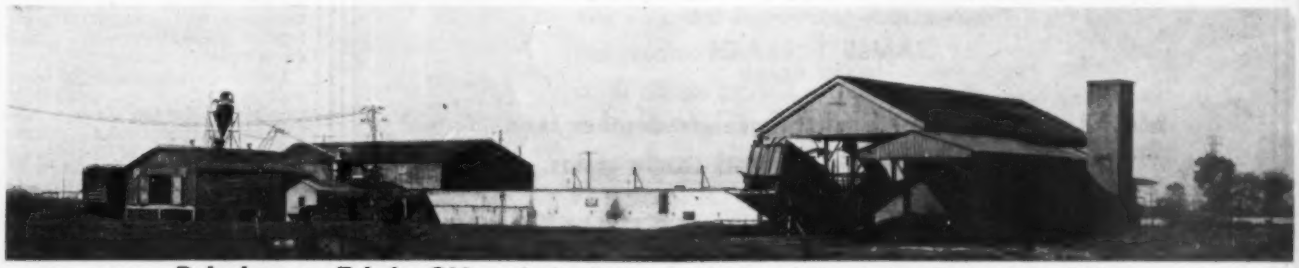

Dehydrator at Toledo, Ohio. A duplicate of this plant is located at Tontogany, Ohio

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NEW BLENDING PLANT—Pictured here is the new alfalfa meal blending plant of Bert & Wetta Sales, Inc., of Maize, Kansas. The plant was designed and constructed by the Forster Manufacturing Co., Wichita. The new plant, located in Bert & Wetta's Wichita warehouse, can turn out a carload of blended meal every four hours, and yet it takes up only a small amount of floor space, leaving the remainder for warehouse use, company officials said. They noted that meal can be uniformly processed the year around with or without vegetable oil and can be sacked or bulk-loaded direct to cars.

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place this content at 22 mgs. per pound of alfalfa or a total of 44,000 mgs. of niacin per ton. At the present price of $9 per kilo for niacin, this value amounts to 39c.

(6) You may want to consider choline in your figuring. The choline content of alfalfa meal is about 400 mgs. per pound, or 800,000 mgs. a ton. The current price of a 25% choline chlorine product from a chemical manufacturer is about 22c per pound. This will place a value of $1.55 on the amount of choline in a ton of good dehydrated alfalfa meal.

(7) How about vitamin E? This is a difficult one to figure. We get into the big money here. Some authorities figure that the vitamin E content of good dehydrated alfalfa meal is around 120 mgs. per pound. Vitamin E preparations today are sold in terms of International Units, so it is not possible to make an exact calculation of the value of alfalfa's content of this important vitamin. Roughly, the value of vitamin E would probably add another $30 to $40 to the accumulation of values shown above.

Other Values

We have not by any means considered all of the nutritional values of alfalfa but why not rest here and add up all the dollars and cents values obtained in items (1) to (7)? Using the most conservative figure of $30 for vitamin E values, the sum of the various items is $120.50. It should be borne in mind that the figures given above are approximations.

The seven constituents of dehydrated alfalfa meal that are all worth money are listed above, but we have purposely omitted a number of other valuable items from our figuring. In addition to the above, good dehydrated alfalfa meal contains lots of thiamine, pyridoxine, vitamine C, vitamin K, biotin, folic acid and inositol. Space does not permit a dollar and cents evaluation of all of these factors at this time. An appraisal of the valuable amino acids and minerals also has been omitted.

When the feed buying public is fully cognizant of the versatility of good dehydrated alfalfa meal and its economical cost per ton in comparison to its total food value, a greater appreciation of alfalfa should result and consequently a greater and more judicious use.

Dehydrators Put New Emphasis on Quality of Finished Product

By JAMES M. DOTY
Doty Technical Laboratories, Inc.
Kansas City, Mo.

IT is apparent in the laboratory that dehydrators have become very quality conscious during the past few years. Only a short time ago the average dehydrator was little interested in the quality of his product as compared with the quantity that he could process. Many dehydrators fell by the wayside after the war because they paid too little attention to the quality of their finished product.

Both new laboratory methods and new processing methods have paid the quality-minded dehydrator well during recent years. The work of the American Dehydrators Assn. research committee in standardizing laboratory procedures has made possible good inter-laboratory agreement on results.

New knowledge of the use of dehydrating equipment has practically eliminated the low quality, brown or slightly burned meal which used to be quite common. As a result, today's successful operator has his material checked regularly in the laboratory and is very careful in processing to eliminate off-colors.

Standardizing Results

Feed mill laboratories, commercial laboratories and dehydrator laboratories, along with the universities, are standardizing results and getting closer agreement each year. This team work of various laboratories has increased the confidence of buyers and has given the processors the needed tools for quality control. Much more work needs to be done in standardizing laboratory techniques. However, one of the biggest needs is a more thorough understanding of the problem of sampling a given lot of meal. Recent work indicates that to properly sample a given lot of meal many precautions are necessary in order to make such sampling representative of the entire lot.

Much work needs to be done to further standardize sampling and laboratory techniques. It seems apparent now that a monthly routine check sample sent to all interested laboratories could be handled in a routine manner without wasting the time of the research committee, thereby permitting the research committee to spend its time on other more pressing problems. Standard reference samples should be available to any laboratory needing such service. A comprehensive study of multiple samples selected at random from any check sample packaging would assist greatly in pointing out some of the problems of sampling material.

All interested laboratories agree that it is gratifying to see the association active in standardization of their product.

James M. Doty

JOINS AIR FORCE

KANSAS CITY—Bill Larson, oldest son of Lloyd S. Larson, secretary of the American Dehydrators Assn., Kansas City, left recently for military service. He enlisted in the U.S. Air Force and qualified as an air cadet. He went to Lackland Air Force Base, San Antonio, Texas, for processing.

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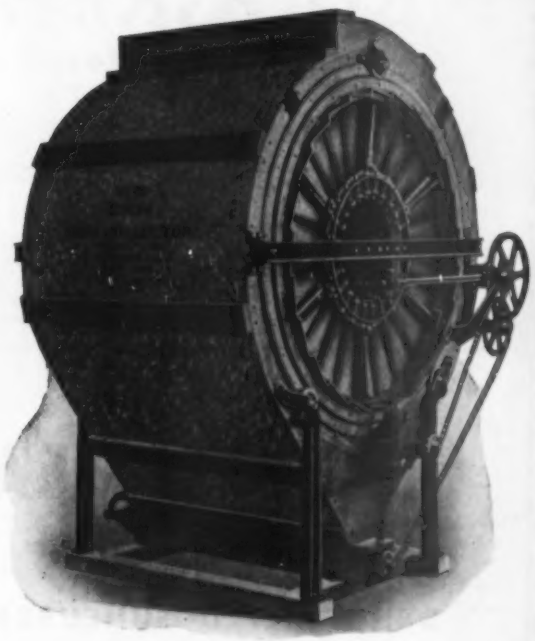

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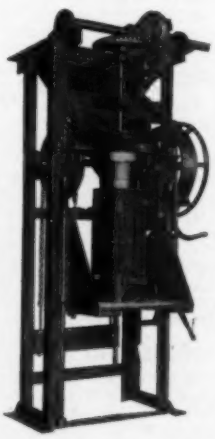

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MEMBERS: AMERICAN DEHYDRATORS ASSOCIATION

Composition of Dehydrated Alfalfa Meal

THE following paragraphs summarize the best present knowledge on the chemical composition, vitamin content and physical properties of dehydrated alfalfa meal, as described in publications of the American Dehydrators Assn. with the collaboration of the Alfalfa Research Council.

PROTEIN

The accepted standard for the protein content of dehydrated alfalfa is 17% and most feed manufacturers have standardized on a 17% guaranteed protein product. Some 20% protein dehydrated alfalfa meal is also produced and used in poultry feeds. It is possible to produce dehydrated alfalfa meals ranging from 14% to 26% protein depending on time of cutting and local soil conditions.

The amino acid distribution in alfalfa protein is fairly constant and supplies certain essential amino acids in greater amount than is found in the commonly used grains. This is especially true as regards lysine, methionine, tryptophane, threonine, and phenylalanine.

Average amino acid content of a 17% protein dehydrated alfalfa meal would be as follows: Arginine 0.85%; Histidine 0.30%; Isoleucine 0.85%; Leucine 1.10%; Lysine 0.85%; Methionine 0.31%; Cystine 0.31%; Phenylalanine 0.76%; Tyrosine 0.93%; Threonine 0.6%; Tryptophane 0.33%. Among other amino acids for which there are known requirements for chick growth, there is no appreciable amino acid content of glutamic acid, glycine and valine in dehydrated alfalfa meal at the 17% protein level.

Alfalfa protein is digestible to the extent of 72% to 78%.

FAT

Dehydrated alfalfa meal has a relatively low fat content. The ether extract from alfalfa is not all fat since some coloring matter is also extracted. The total is over 2% and usually a little under 3%. Dehydrated alfalfa is not noted for an appreciable fat content, even though it is known to be an excellent source of fat soluble vitamins. The relatively low fat content also keeps alfalfa from becoming rancid. The fat it contains is of good quality.

CARBOHYDRATES

Dehydrated alfalfa contains from 38% to 40% nitrogen-free extract and from 17% to 26% crude fiber. Meal containing more of the leafy portion of the plant will contain less fiber, more protein, and a nitrogen-free extract content near 40%. Good dehydrated alfalfa leaf meal will average 20% protein, 18% fiber and 39% NFE. Dehydrated alfalfa meal —17% protein—the most popular dehydrated alfalfa meal, will average 17.8% protein, 24.2% fiber and 39.7% NFE. (National Research Council, Committee on Feed Composition, 1950). The fiber in dehydrated alfalfa meal is not without some benefit. Heuser states that "any feeds that stay longer in the digestive tract probably have a larger proportion digested". (Feeding Poultry, by G. F. Heuser, John Wiley & Sons 1946).

MOISTURE

Dehydrated alfalfa has a moisture content of only 7% to 12%. It contains 88% to 93% dry matter compared with fresh alfalfa which contains only 15% to 20% dry matter. Dehydrated alfalfa is many times as concentrated as fresh alfalfa.

MINERALS

Dehydrated alfalfa meal is quite rich in minerals and in that respect is a good supplement to grain and grain products.

Dehydrated alfalfa meal is a good natural source of calcium, containing from 1.6% to 1.9% of that element. The phosphorus content will be in the range of .22% to .31%, the higher levels being in meals with a larger proportion of leaves.

The potassium content is in the range of 1.9% to 2.1%; sodium, .14% to .20%; magnesium, .23% to .40%, averaging near .30%. The chlorine content is in the range of .31% to .37%; and sulphur is present in amounts from .3% to .5%, with an average in the vicinty of .32%.

The trace elements are also present. Iron is reported at .032% to .038%. Manganese is a bit more variable, being reported at 15 mg. to 32 mg. per pound. Copper is present to the extent of 3 to 7 mg. per pound, and cobalt to the extent of .05 to .17 mg. per pound. It is suspected that the manganese, copper, and cobalt levels are in part determined by the amounts of those elements present in the soil on which the alfalfa is grown.

VITAMINS

Vitamin A — Dehydrated alfalfa meal is the most used source of carotene to supply vitamin A activity. The carotene content is variable, yet quite high. Some values are expressed as I.U. of vitamin A activity per pound; some as parts per million (p.p.m.) and some as milligrams of carotene per pound. The "milligrams per pound" is growing in popularity, although many still like to see vitamin A activity expressed as I.U. (International Units) per pound.

Vitamin A values for dehydrated alfalfa are much higher than for suncured alfalfa meals. The National Research Council (Committee on Feed Composition) has released figures from 36 to 60 mg. of carotene per pound of dehydrated alfalfa meal. These amounts are equivalent to 60,000 and 100,000 I.U. vitamin A activity per pound. Morrison (Feeds and Feeding 1948) reports dehydrated alfalfa meals contain from 72,333 up to 135,833 I.U. per pound, equivalent to 44 to 81 mg. of carotene per pound.

Many manufacturers of dehydrated alfalfa meal now sell their product on the basis of carotene content (or vitamin A activity) guaranteed to be present at the time of delivery. Guarantees of 100,000 I.U. per pound are very common, and it is possible to get meals containing twice that amount. Values from 60,000 to 100,000 I.U. (36 to 60 mg. per lb.) are very good for use in making feed.

Vitamin D — Dehydrated alfalfa contains no vitamin D_3 which is the type of vitamin D usable by chickens. Dehydrated alfalfa may contain varying, though small, amounts of vitamin D_2, but that vitamin is not of consequence in growing poultry.

Vitamin E—Dehydrated alfalfa is an excellent source of vitamin E. Morrison reports dehydrated alfalfa leaf meal to contain 173 mg. of alpha-tocopherol per pound. That amount is ten times that of good grain, and is exceeded only by wheat germ oil. As a vitamin E source, dehydrated alfalfa meal is excellent. Vitamin E makes for good, sound growth of chicks and poults and has anti-oxidant value which helps protect other nutrients.

Vitamin K—Alfalfa was one of the first sources from which vitamin K was derived. Dr. Heuser says: "Vitamin K is a stable, fat-soluble vitamin. It is found chiefly in alfalfa meal, green pastures, . . .". Exact figures regarding the vitamin K content of

dehydrated alfalfa meal are not at hand, but no poultry feed will be deficient in this vitamin if dehydrated alfalfa is used in recommended amounts.

Thiamine (Vitamin B_1)—Dehydrated alfalfa meal is a good source of this vitamin containing from 1.5 to 3.6 mg. per pound (Morrison). These amounts are greater than in most feed grains. In poultry feeds, thiamine content is never a problem because most of the other ingredients used contain enough and to spare.

Riboflavin — Dehydrated alfalfa meal is an excellent natural riboflavin source containing from 7.3 to 7.4 mg. per pound according to the National Research Council. Morrison reports 6.7 to 9.1 mg. per pound. Other tabulators of feed analyses show 6.0 to 7.5 mg. per pound.

These quantities of riboflavin make dehydrated alfalfa meal a valuable and one of the best natural sources of this vitamin and the amounts used in poultry feeds contribute appreciable levels of this vitamin to the ration.

Niacin — The National Research Council Committee on Feed Composition reports from 8.7 to 17.3 mg. of niacin per pound of dehydrated alfalfa meal. Morrison shows 18.0 mg. per pound. Others report 12 to 17 mg. per pound. Dehydrated alfalfa meal is, therefore, a better source of this vitamin than are the grains.

Pantothenic acid — The National Research Council reports from 12.3 to 18.5 mg. of pantothenic acid per pound of dehydrated alfalfa. Morrison shows from 15.3 to 18.2 mg. per pound. Dehydrated alfalfa meal is one of the very best sources of this essential vitamin.

Choline and Betaine — Morrison shows 462 mg. of Choline per pound of dehydrated alfalfa meal. Sievert and Fairbanks consider 400 mg. per pound to be a good, conservative figure. Dehydrated alfalfa is also one of the best sources of betaine. Recent assays of 17% dehydrated alfalfa meal have shown betaine content of 1900 to 2300 mg. per pound.

Pyridoxine—This is known to be present, but no representative figures are available at present.

Biotin—Morrison reports .15 mg. of biotin per pound of leaf meal. This is three to five times the amount in most grains.

Folic acid is a constituent, being reported at a level of 4.5 mg. per pound (Smith, Feedstuffs p. 52, March 1, 1947). Morrison gives the figure 3.93 mg. per pound. This amount of folic acid shows dehydrated alfalfa to be foremost in containing this vitamin which is considered so important for growth, feather production and anemia prevention.

Inositol content of alfalfa leaf meal is reported at 2100 micrograms per gram by Woolley in the Journal of Biological Chemistry 140,453 (1941).

Vitamin B_{12} data is somewhat limited. Kohler (Cerophyl Laboratories) reports results on B_{12} similar to those of Peeler et al, Journal of Nutrition, 43, 49 (1951) which was reported as 3 millimicrograms per gram. This is not a nutritionally significant amount as far as chick rations are concerned.

Vitamin B_c—Results have been obtained by Kohler indicating that the total B_c complex content of dehydrated alfalfa meal is in the range of 5 to 10 micrograms per gram.

PHYSICAL PROPERTIES

Color—One of the outstanding properties of dehydrated alfalfa meal is its distinctive green color which is made up of several pigments.

The bright green pigment present in largest amount is probably chlorophyll.

Xanthophylls, the yellow colored pigments, are plentiful in dehydrated alfalfa meal. The xanthophylls, the same as found in green grass, are responsible for the coloring of the egg yolks, legs, skin and body fat of birds. The depth of color in these parts can be regulated to some extent by the amount of alfalfa in the ration.

Carotene, a deep orange pigment, is very plentiful in dehydrated alfalfa. Riboflavin is also an orange-colored pigment in dehydrated alfalfa. Folic acid is yellowish in color. These yellow pigments are covered or masked by the green ones to produce the good green color so highly prized by feed makers. It should be noted that an appreciable part of the color of good dehydrated alfalfa is due to its vitamin content.

Odor—Dehydrated alfalfa meal has a characteristic odor—an aroma like that of fresh alfalfa, but much more concentrated. As with other feeds having a characteristic odor, that odor is much more noticeable when the alfalfa is slightly warmed. Notice how the odor is much more pronounced when a sample has been warmed in the hand than when freshly taken from a cold bag.

Specific Gravity—This is a term which means "relative bulk" to the feed man. Dehydrated alfalfa meal is quite bulky as compared with most other products used in making feeds.

The ground grains weigh from 1.1 lbs. up to 1.5 lbs. per qt. except ground oats which weigh 0.7 to 0.8 lb. per qt. In comparison, dehydrated alfalfa meal weighs about 0.6 lb. per qt. Bran weighs .5 lb. per qt., being a little bulkier than alfalfa meal.

The bulkiness of dehydrated alfalfa meal is a benefit to many feeds because it provides a texture and permeability that would not otherwise be had.

Particle Size — Alfalfa is first chopped up into proper sized pieces for passage through the dryer and later, when dried, it is further ground to the size wanted by the user.

Some users want a very fine product because it gives the feed into which it is mixed a greener color than results from a coarser grind. Others, however, want a product that is not so fine.

Particle size is very largely a matter that is up to the buyer.

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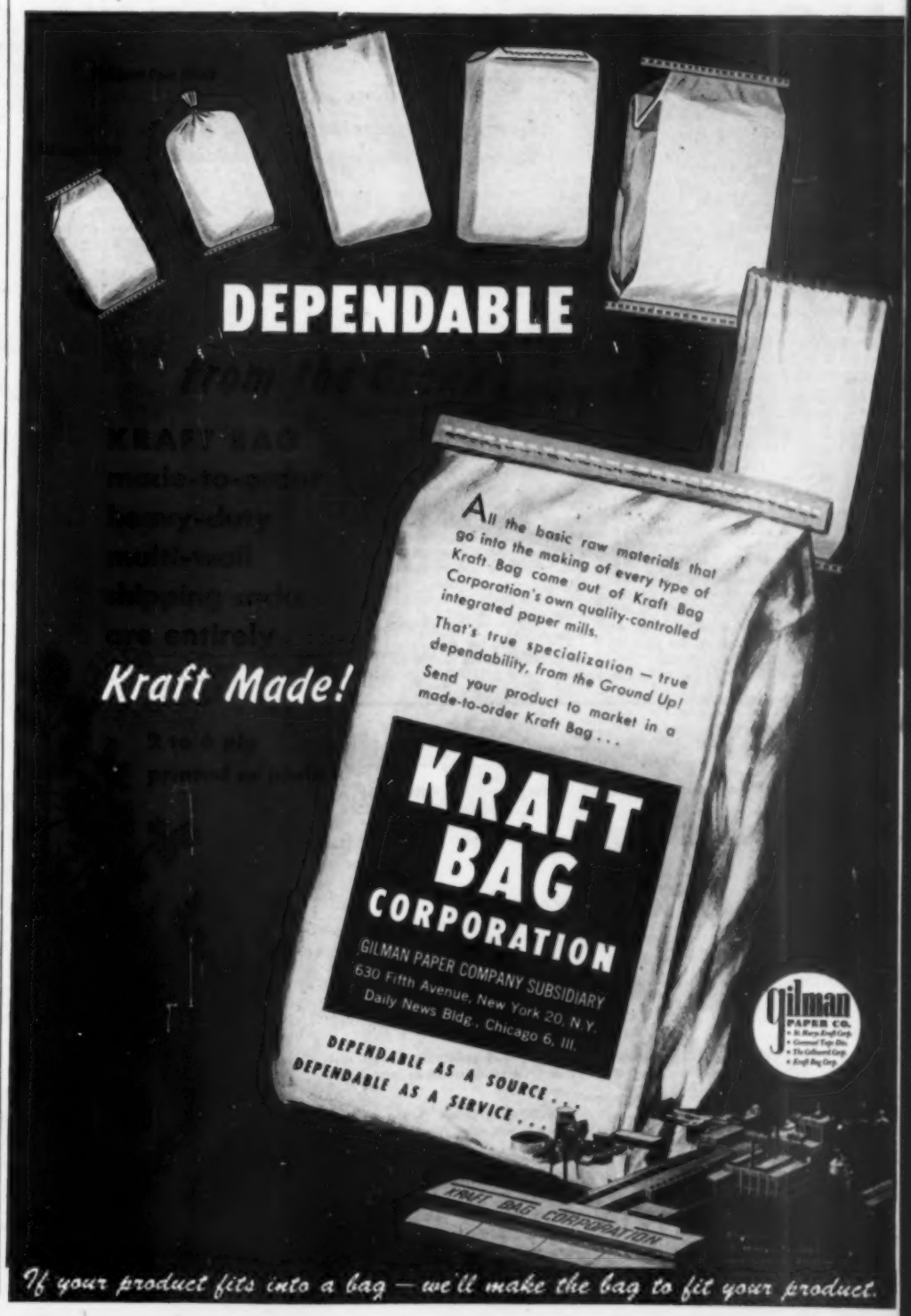
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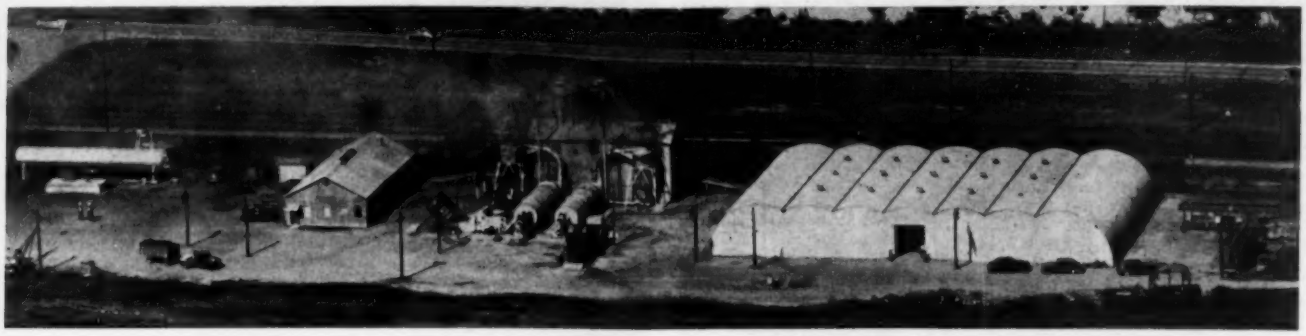

DEHYDRATOR—This unusual aerial view gives a quick picture of all aspects of a drying operation in the alfalfa industry. It is the two-drum plant of the W. J. Small Co. at Cozad, Neb., and illustrates a typical plant layout. At the extreme left is a storage tank for liquefied petroleum gas (butane or propane) which is a commonly used fuel in the industry. Next in line is the combination office building and machine shop. In the center the two rotary drums can be seen in operation with two self-feeders at the nearer end. Trailers loaded with chopped alfalfa from the fields are shown upended, discharging their loads into the feeder. At the left a truck approaches with a new trailer load. From the drums the dried alfalfa is blown into hoppers and conveyed into the building where it is ground, sifted, and some is pelleted. The alfalfa is sacked and then loaded directly into cars for shipment or trucked to the adjoining warehouse, which can be seen at the right, for temporary storage.

HOW ALFALFA IS PROCESSED

By Joseph Chrisman
Cerophyl Laboratories, Inc., Kansas City
President of the American Dehydrators Assn.

THERE are two major classifications of manufactured alfalfa products—suncured alfalfa products and dehydrated alfalfa products.

Suncured alfalfa products are the products resulting from the processing in a mill of alfalfa which has been mowed, cured on the field on which it was grown by allowing it to dry naturally under existing atmospheric conditions, stacked in the field or baled in the field for subsequent grinding or chopping in a mechanical device to the desired degree of comminution, or delivered directly from the field, after being properly cured to some point for the forementioned grinding or chopping.

Dehydrated alfalfa products are the products resulting from the processing in a mill of alfalfa which has been mowed and transported at once (while still containing most of the moisture indigenous to the growing alfalfa plant) to a central processing unit designed for the rapid removal of most of the remaining moisture under conditions of relatively high temperature and large air flow for moisture evaporation, entrainment and removal. The green or raw alfalfa may be chopped into short lengths during the field operations or it may be so chopped at the central plant just prior to the moisture removal step. Following the moisture removal or dehydration, it is ground or chopped in a mechanical device to the desired degree of reduction.

Economic Aspects of Alfalfa Processing

In the 1950-51 crop year the Department of Agriculture reported 233,800 tons of suncured alfalfa meal produced at an average market price, bagged at Kansas City, of $41.30 ton, or a total crop value of $9,655,940. During the same year 900,900 tons of dehydrated alfalfa meal were produced at an average price of $55.60 ton on 17% meal bagged at Kansas City, indicating a total dehydrated crop value of $50,090,040. Since it is known that all producers do not report to the Department of Agriculture, it can be assumed that both total tonnage and total dollar value actually exceed these figures with regard to each of these products.

Processing History

The processing of suncured alfalfa to produce manufactured products dates back into the last century or at least to the early 1900's. As an industry it reached a peak in the crop year of 1945-46 and since that time, according to Department of Agriculture reports, production volume has declined from a peak of 573,700 tons to a low of 233,800 tons in crop year 1950-51.

The processing of alfalfa by means of artificial drying or dehydration had its beginnings in about 1930-35. In the early years of the industry it would appear that the thinking of those pioneers who were in the business was that there was a way of producing an alfalfa meal which would circumvent the losses always involved in suncuring on account of the vagaries of weather. Particularly in areas where frequent rainfall is experienced during the normal growing season, it is difficult to maintain quality in naturally dried alfalfa. A good rain on an alfalfa crop which has been mowed and is being dried on the ground will greatly reduce its value as a commercial product. It will lose much of its nutritive value through leaching and oxidation. It will also lose much of its bright green color through chemical changes which affect the chlorophyll content. The thinking at that time was more along the lines of saving more of the crop as a good product rather than the making of a product to compete with the suncured meal.

Within a few years, however, the mixed feed industry became cognizant of the fact that properly dehydrated alfalfa meal normally contained more carotene, better color and generally better nutritive values than did the suncured alfalfa. As improvements in dehydration operations came about the demand for dehydrated alfalfa meal increased and the demand for suncured lessened, though the total demand for combined quantities has never taken a downward trend.

Two of the improvements in the alfalfa dehydration industry which probably exerted the greatest influence on the mixed feed industry to promote use of dehydrated alfalfa meal were the introduction of blending and the use of cold storage as a means of preserving carotene. Both improvements added cost to the finished product, but went far in expanding the market. In combination these two improvements made it possible for the dehydrator to ship a uniform product of standard vitamin A potency the year around.

During World War II, when the demand for large increases in poultry production was great, feed mixers demanded more and more alfalfa meal and particularly dehydrated alfalfa meal. Good priorities were extended for the manufacture of dehydration equipment and the number of dehydration units increased very markedly from 1943 to about 1948. The increase in production since that time has come about through increased efficiency in operation of harvesting and processing equipment, the trend toward amalgamation of units under stronger central management and improvement in growing crops rather than through increased numbers of dehydration units put into use, though some additional units have been and are being installed.

Producing Areas

Not all alfalfa producing areas lend themselves well to the production of manufactured alfalfa products. Most such products are manufactured in the surplus areas where climatic conditions are good for crop yields but local feeding is not extensive. Wisconsin is the leading state in alfalfa production, but very little of the crop is "manufactured."

Concentrated areas of production of manufactured alfalfa are in the Platte Valley of Nebraska, the valleys of the Kansas River and its tributaries in Kansas, the valley of the Arkansas River in Colorado and to some extent in Kansas, the Im-

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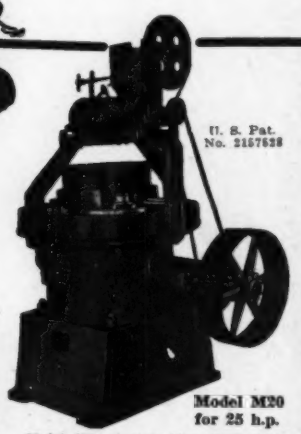

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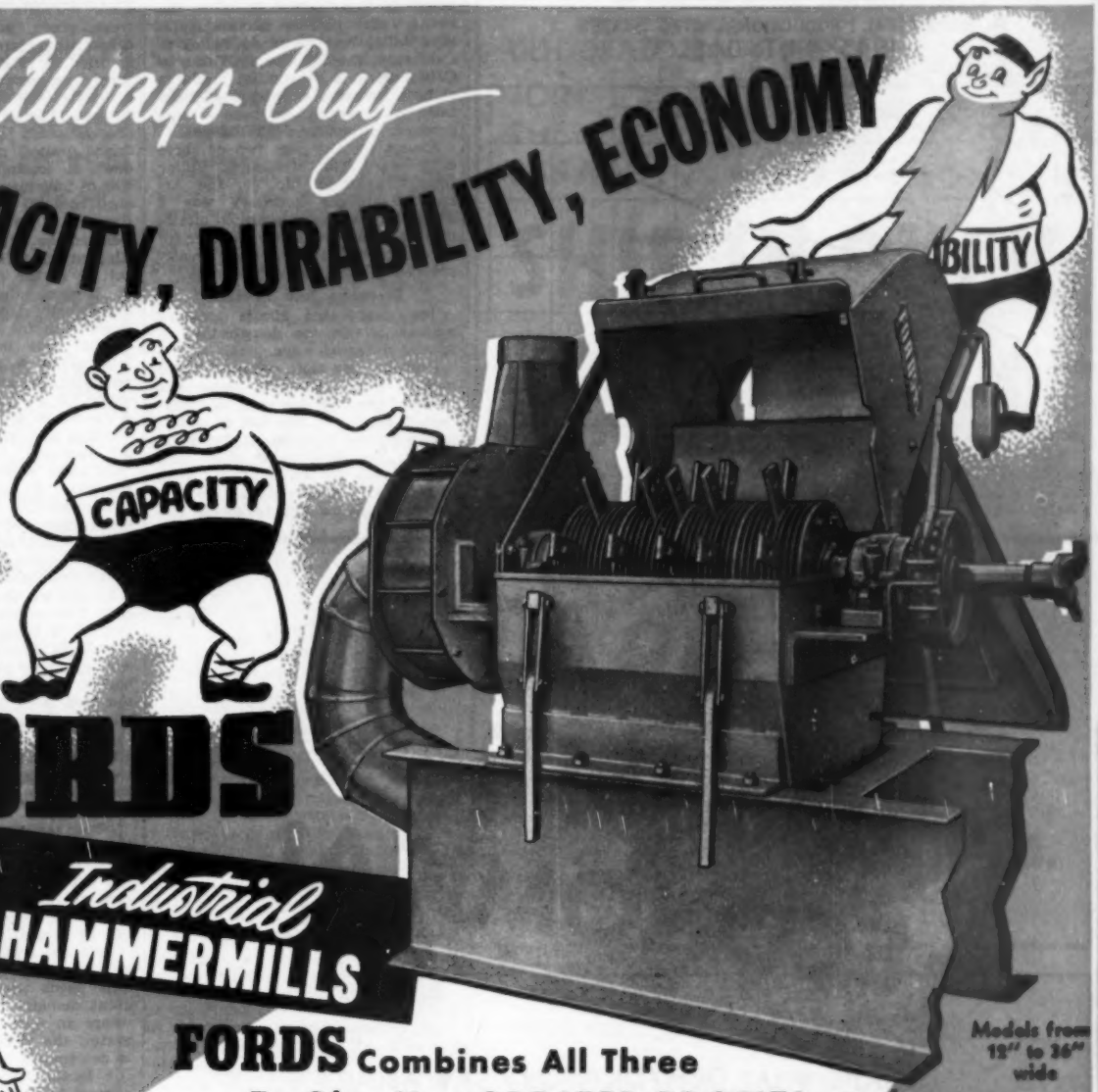

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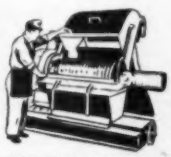

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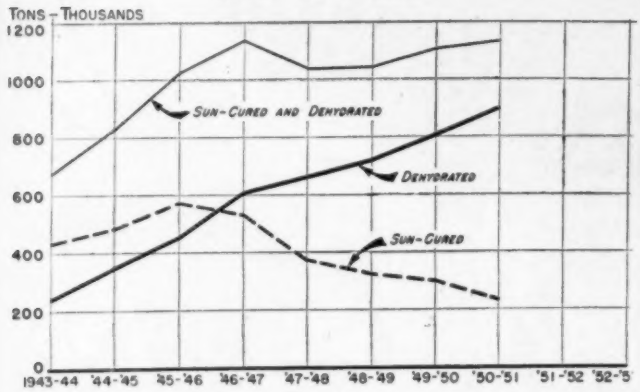
ALFALFA MEAL PRODUCTION, UNITED STATES
1943-44 TO DATE



perial Valley in California and linked with it the lower Gila River Valley in Arizona. The area around Toledo, Ohio, is significant as is a portion of the Brazos Valley in Texas.

The production of suncured alfalfa is extensive in eastern Colorado, the Pecos Valley in New Mexico, Antelope Valley and Fernando Valley in California. The San Joaquin Valley in California is a substantial producer of both suncured and dehydrated alfalfa. Arizona, too, has been a large producer of suncured alfalfa meal.

Except for the past two or three crop years, the Mississippi Valley from Charleston, Mo., to the Arkansas-Louisiana boundary was a larger producer of dehydrated alfalfa meal. Extremely adverse weather for several consecutive years has greatly reduced production in that area.

Procuring Raw Product

The dehydrated alfalfa industry obtains alfalfa for dehydration in several different ways.

Probably the most commonly used method is the purchase, field at a time, of the standing crop at a prenamed price per dry ton as determined by the outturn of the dehydrator. The dehydrator then goes into the field of standing alfalfa, when in his opinion it is ready for harvesting, and with his own equipment and labor harvests the crop, hauls the fresh, green, juicy material to his dehydrating plant where it is promptly dried at relatively high temperatures to a moisture content of from 5 to 14%. The dried material is then subjected to a milling or grinding process which breaks it down into a finely ground meal. This breaking down is accompanied by a further loss of moisture so that the finished meal contains from 4 to 10% moisture as it is put into bags and weighed or otherwise disposed of. Elapsed time from the moment of cutting in the field to the moment of bagging the finished material is normally from ¾ hour to 1½ hours with the aim being to shorten the time to the least possible interval in order to avoid loss of vitamin content and bright green color.

Variations in the method of purchasing the crop from the farmer are many.

In some cases, the field may be purchased at so much per acre in which case the dehydrator exercises his judgment of the possible outturn of the field in dry tons in an attempt to avoid an excessive per ton cost in the finished bag.

Sometimes the dehydrator buys a given field on a per dry ton basis each time it is ready to cut during the season. In other cases he may have an agreement with the farmer to harvest the field for the entire season with price per ton to be determined just prior to each cutting.

In some cases the dehydrator owns all or part of the total acreage he harvests during the season or he may lease acreage for the production of his alfalfa.

Some dehydrators may purchase the crop on a quality standard, paying several different prices per dry ton depending on the protein content of the finished material. This method is not widespread in practice at present.

In some areas, particularly those areas near large and concentrated milk sheds where baled hay is in great demand for dairy cattle and where an active hay association operates, the price for the field crop is determined to a great extent by the local hay association and the current demand for baled hay.

In all cases, the dehydrator endeavors to harvest the field of standing alfalfa at a point in its stage of growth when the quality is the highest possible consistent with the economy of operation as determined by tonnage yield. In general terms this is between the appearance of the first bloom and the time of about 10% bloom, though it will vary with cuttings and will be affected by weather.

As alfalfa advances in stage of growth during any one of its several "cuttings" during the season, the quality of the dehydrated meal drops with respect to its percentage composition of nutritive factors such as protein and carotene (pro-vitamin A). These nutritive factors, as determined by laboratory analyses, form the basis of the grades of dehydrated alfalfa meal as sold in the market, and the normal price differentials of these various grades plus the greater demand for the better grades make it imperative that the dehydrator strive for quality even at the expense of increased tonnage per harvesting hour or per acre.

As a result of this effort to hold quality high, and because in any single dehydrator harvesting area all fields will mature at approximately the same rate, and because the capacity of a dehydrator is pretty much of a fixed figure in tons per hour, it becomes necessary for the dehydrator to start harvesting some fields when they are quite immature in order to cover all his fields before the final one for the "cutting" becomes so mature that the quality is greatly below standard.

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may wreck well laid plans to begin or to continue harvesting in an orderly manner to obtain this delicate balance of quality with tonnage.

Methods of Processing

The process used in obtaining dehydrated alfalfa products begins with mowing the field of standing alfalfa. There are a number of machines in use for this purpose, some of them self propelled and some tractor drawn. By far the most of them today are so designed that they mow the alfalfa and, without its ever touching the ground, deliver it through various types of conveyors to a chopping unit which is an integral part of the machine. This chopping unit cuts the long alfalfa into short lengths from ¼ to 1½ in. Usually the chopped material is mechanically conveyed to a blower which pneumatically delivers to a trailer or truck for transporting to the dehydration plant.

At the dehydration plant the wet juicy chopped alfalfa must be fed to the dehydrator and it is pretty general practice now to do this by means of an automatic feeder upon which the entire truck or trailer load can be dumped, thus releasing the mobile equipment for immediate return to the field.

This automatic feeder is so constructed that it can be adjusted in its capacity to deliver to the dehydration unit. This is necessary because of the wide variation in moisture content of the raw alfalfa. The capacity of the dehydrator to remove moisture is pretty much a constant so that if the moisture content of material to be dried is doubled then the capacity of the dehydrator with respect to the whole raw material is practically cut in half. That is not an exact statement but is only illustrative.

The automatic feeder is sometimes, although, not always, controlled thermostatically in connection with the temperature of the outlet gasses at the outlet end of the dehydrator. In other cases operator skill is depended upon to control the rate of throughput.

Dehydration Unit

The classical design of alfalfa dehydration units is the rotating drum with lifting flights on the interior which, as the drum rotates, lift the alfalfa particles to a point near the highest point in the rotation and then allow them to drop. Theoretically these particles form a curtain across the circular section and the hot relatively dry air passes through the curtain picking up moisture as it progresses longitudinally through the drum. The alfalfa particles also progress in the same direction and eventually are drawn out of the "dry" end of the drum by the air stream and both the moisture laden air and the "dry" alfalfa are blown into a device known as a cyclone type separator. The moisture laden air escapes to the outside atmosphere through the upper opening and the alfalfa particles drop to the bottom and out. This alfalfa is again picked up by an air stream and delivered to another cyclone separator from which the air escapes as before and the meal drops out of the bottom outlet directly to a hammermill where it is ground to the desired particle size. It may instead be diverted at this point to a pellet mill, instead of a hammermill or it may be packaged instead as "chops." Usually, however, it is there ground and then blown by a fan, which is usually an integral part of the hammermill, to another cyclone from the bottom of which it most likely will be bagged for shipment or storage.

It is at this point that it may, instead of being bagged directly, go to a sifting or screening device by means of which the coarse particles are separated from the fine particles. Due to the nature of the alfalfa

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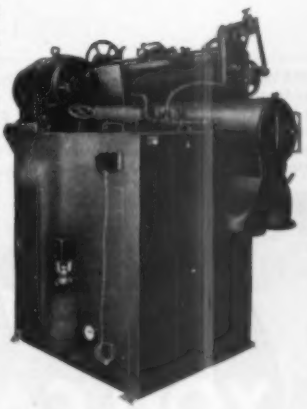

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DEHYDRATING AREAS—This map shows locations of the principal alfalfa dehydrating plants. The estimated 400 dehydrators have plants in 30 states but the vast majority are in seven big producing areas. These are California, particularly the Imperial Valley, Platte Valley of Nebraska, eastern Kansas, Brazos Valley of Texas, Mississippi Delta lands from southern Missouri to northern Mississippi, northwestern Ohio, southeastern Colorado.

plant, the stems of the plant are higher in fiber and lower in most, if not all, of the nutritive factors. Due also to the nature of the plant the more fibrous portions do not break down as readily in grinding and the leafy portion which is very friable, is quickly reduced to very fine particles. These attributes of the material make it possible to divide the whole into two parts, one of which will be higher in protein and other nutrients than the whole and one which will be lower. This is a way in which leaf meal is made and is also a means of obtaining some of the better grades. It will also result in production of a secondary lower quality which must be disposed of at a reduced price.

It is at this same point that meal may be handled in bulk to bulk storage such as is used in the storing under inert gas for preservation of oxidizable materials such as carotene.

It is also at this point that the meal is customarily sampled for laboratory analysis to establish its grade or quality.

Bulk Handling

It is possible that meal may be taken at this point to be treated with oil for bulk loading into cars. Oiling the meal is done in several different ways and various oils may be used. In general, a mixing device is used and oil sprayed on the meal in motion to obtain equal distribution in the mass. The oil feeding and the flow of meal must be carefully controlled. Some of the oils in use are soybean oil, cottonseed oil, rice oil and fish oil. Some operators bag the meal after oiling, but the more common practice is to oil prior to bulk loading in a car for shipment. The object of the oiling is principally to overcome the dustiness, but another consideration is the brightening or intensification of the green color. The oiling may also have some preservative action with respect to carotene.

Pelleting

Pelleting of alfalfa may be done at either of two points in the processing. One method employs the use of a shredding device to further disintegrate the raw green alfalfa prior to its dehydration. When this is done the unground material emerging from the dehydrator is sent directly to a pellet mill which compresses the alfalfa into cylindrical shaped pellets of varying lengths. The diameter may be anything from ¼ to ⅝ or ¾ in. Another method is to take the material from the grinding operation and put it through the pellet mill. When this is done, the meal may be of a coarser particle size.

Pelleting of alfalfa is a severe operation on a pellet mill and it is probable that the life of the dies is much shorter than when used for pelleting of mixed feeds or oilseed meals, which have more of a lubricating effect and less abrasiveness.

Blending

Dehydrated alfalfa meal as produced is extremely variable in quality or grade. Its color, as well as its nutritional values, as chiefly measured by protein, vitamin and mineral content, varies widely as it is produced with such important factors as soil's fertility, stage of growth, time of seasons at which cut, rainfall, seed varietal differences, and type of dehydration and harvesting equipment used.

Protein, as an example, can range from 13% to a high of 30% as produced: vitamin A from a low of 35,000 to a high of 300,000 I. U.'s per lb.

These wide variations in "straight" or "mill run" dehydrated alfalfa early became apparent to the quality

Joseph Chrisman

AUTHOR—Joseph Chrisman, Cerophyl Laboratories, Inc., Kansas City, the author of the accompanying article, is president of the American Dehydrators Assn.

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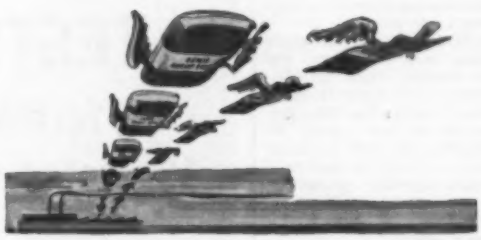

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Average Alfalfa Meal Prices

Average Wholesale Price for Suncured and Dehydrated in Dollars Per Ton, Baggell, at Kansas City, as Reported by the U.S. Department of Agriculture.

No. 1 Fine Ground Suncured Alfalfa Meal

Crop year:	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Aver.
1938-39	20.40	20.20	19.40	18.50	18.50	19.00	19.00	19.00	19.20	19.60	19.70	19.40	19.30
1939-40	19.00	18.85	18.75	19.00	19.45	24.15	23.40	24.20	23.60	23.25	23.25	23.35	21.70
1940-41	22.65	21.60	19.90	19.60	19.95	20.20	21.40	22.20	23.20	22.10	21.60	21.30	21.25
1941-42	30.75	19.95	20.30	21.80	22.95	26.80	27.70	28.20	28.60	30.70	32.20	32.00	26.00
1942-43	30.80	28.65	28.80	30.15	31.40	32.20	32.80	32.90	32.90	32.90	32.90	32.90	31.60
1943-44	32.90	32.90	32.95	33.20	36.30	38.70	39.35	39.80	39.80	39.80	40.80	44.80	37.50
1944-45	44.80	44.80	44.80	44.80	44.80	44.80	44.80	44.90	44.90	42.90	43.15	42.95	44.35
1945-46	42.00	39.20	39.20	42.50	44.70	44.70	44.70	44.70	44.70	44.70	44.70	44.70	43.40
1946-47	44.70	44.70	44.70	47.70	43.85	42.00	44.15	46.80	46.10	45.10	41.50	38.50	43.90
1947-48	40.60	39.00	36.50	33.60	38.20	46.00	47.25	48.30	48.50	50.00	49.25	46.00	43.60
1948-49	41.60	37.50	39.60	38.60	36.60	37.10	39.50	40.20	40.00	40.00	39.65	39.20	39.15
1949-50	39.25	38.00	33.40	33.00	34.15	38.75	41.50	42.60	41.25	39.00	37.10	33.50	37.60
1950-51	34.00	39.20	38.40	39.25	42.60	41.50	41.40	42.75	43.75	44.80	44.00	44.00	41.30
1951-52	45.25	46.00	46.00	47.60	53.25	58.25	....	....	....	....	....	....	....

Dehydrated Alfalfa Meal (17%)

1938-39	28.00	28.00	27.00	26.50	26.50	26.75	28.00	27.00	27.25	27.75	28.00	27.00	27.25
1939-40	26.00	26.00	26.00	26.00	27.00	32.00	32.00	34.00	35.00	35.00	34.00	33.00	30.50
1940-41	29.50	26.00	24.75	25.00	26.60	26.90	27.75	28.50	28.50	27.90	27.25	26.50	27.10
1941-42	26.00	24.35	25.00	26.50	29.75	32.50	38.10	42.00	43.00	43.00	43.00	41.00	34.50
1942-43	38.50	37.70	37.90	38.90	41.40	43.65	44.40	44.40	44.40	44.40	44.40	44.40	42.05
1943-44	44.40	44.40	47.35	47.40	53.40	53.90	54.35	54.80	54.80	54.80	60.30	60.30	52.50
1944-45	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30
1945-46	60.30	60.30	60.30	60.30	60.30	60.45	60.45	60.45	60.45	60.45	60.45	60.45	60.40
1946-47	60.45	60.45	60.45	62.45	59.50	57.80	60.65	63.10	63.75	60.80	57.50	57.50	60.30
1947-48	60.25	48.20	45.90	41.90	47.75	59.60	66.00	67.50	69.20	81.25	83.40	71.00	61.85
1948-49	61.40	45.00	45.20	42.45	41.50	44.40	51.10	53.30	50.50	50.75	49.00	44.60	48.25
1949-50	41.25	39.55	36.75	39.75	50.40	61.00	67.25	66.40	69.00	70.70	71.90	65.40	56.60
1950-51	59.00	54.25	43.60	49.75	51.00	48.50	52.50	54.25	57.10	65.00	67.25	65.00	55.60
1951-52	66.25	59.80	49.25	57.40	65.75	73.60	....	....	....	....	....	....	....

Source: Grain Branch, Production and Marketing Administration, U.S. Department of Agriculture.

minded buyer who found it impossible to manufacture a constantly uniform feed by using mill run alfalfa meal. Simultaneously the more quality conscious dehydrators began to blend their meals to standard color, protein and vitamin A levels such that their finished product was uniform in these factors.

Thus blended meal as a grade came into existence and, of course, the function of blending came into being as a distinct and separate operation following dehydration. Blending merely consists of the mixing or blending together of two or more known grades in a mixing unit to a pre-determined market grade or standard.

Problems of Quality Control

An acceptable definition of blended meal would be as follows: "Blended dehydrated alfalfa meal is that meal resulting from the mixing or blending of two or more lots or grades of dehydrated alfalfa meal of known protein, fiber and/or vitamin content and/or color or grind characteristics as a separate process following dehydration, such that the resultant mixture or blend of dehydrated alfalfa meal shall be uniform in one or all of these factors.

"Blended meal shall not be construed as the product resulting from the com-mingling of two or more grades of freshly cut undried alfalfa prior to or simultaneously with dehydration, or that meal which results from the 'feeding back' or the introducing of one or more grades of dehydrated meal into the stream while dehydration and grinding is taking place prior to sacking, loading and/or storing."

Let us look at the dehydrating season in the Middle West, that is, Colorado to Ohio and the Platte Valley of Nebraska to the Brazos Valley in Texas. Starting date in the southern portion of this area may be as early as the early part of March, progressing northward to a start in southern Kansas in the first half of April and in Nebraska late April. The season's end will normally come about Oct. 1 in the Kaw Valley area of Kansas and relatively earlier in Nebraska by a week or two and as much as a month later as far south as the Brazos Valley in Texas. Again the particular climatic conditions in any season can vary the closing date by three to four weeks.

Peak production months in the area are apt to be June and July. Normally the dehydrator will take a minimum of four cuttings during the season, occasionally five and sometimes on some fields as many as seven. This will depend on many factors. If an early start is achieved and frost is delayed beyond normal in the fall, if rainfall is well distributed through the growing season, permitting good growth and ample operating hours for the harvesting and dehydration, and if soil fertility is kept high, seven cuttings is a possibility.

The first cutting in the spring, providing that it has not been delayed too long by weather which prevents harvesting, will usually start out at a high quality level, running well over 20% protein and above 200,000 I. U. vitamin A activity. By the time all fields of the first cutting have been harvested, the protein will probably have dropped to 17 to 19% with a corresponding drop in vitamin A potency.

The second cutting, if gotten to promptly, will start out at a protein value in the neighborhood of 20% and a vitamin A of 150,000 to 200,000 I. U. but will drop in value of these two nutritive factors more quickly with an increase in fiber con-

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ALFALFA MEAL ANALYSES

We Solicit Your Patronage

SAMPLE CONTAINERS FURNISHED ON REQUEST

TESTS on farms in 19 states show

Major Benefits from GRASS AND LEGUME SEED Treated with "Arasan"

Now the results of 72 farm tests of treated and untreated seedings of grass and legumes give added emphasis to the conclusions of years of earlier experiments: that treatment with "Arasan" seed disinfectant greatly increases the stands and yields of these small-seeded crops.

Du Pont conducted these 1951 field tests with cooperating farmers in 19 states to get a direct comparison of the performance of high-quality seed under a variety of actual farm seeding conditions.

Further tests are continuing, but the value of "Arasan" to control seed rot and seedling blight to improve the crop has been shown conclusively, as the summary table of 72 field trials on the right indicates.

But more important to you, as a seedsman, is the reaction of the farmers . . . your customers . . . to seed treatment. The results of the tests immediately convinced most of them that they can't afford to use anything but treated grass and legume seed. More farmers each year are reaching this conclusion, and asking for treated seed. "Arasan" seed treatment has a big potential as a sales lever for you. With its help, you can build even better seed performance and streamline your sales program to the new trend.

Walter H. Bergmen
Glencoe, Minn.

"Comes Up Better"

"This spring my certified alfalfa treated with 'Arasan' came up far better and heavier than untreated, even though growing conditions were ideal. I can't afford to take a chance on a poor stand. I'll treat all alfalfa seed from now on."

Joseph D. Fatherolf
Orwigsburg, Pa.

"Boosts Yield One-Third"

"I seeded alfalfa in spring oats. After oat harvest, the part treated with 'Arasan' showed better color, more and stronger plants. First cutting on 1¼ acres with 'Arasan' produced 32 bales; without 'Arasan' 24 bales."

Glen Maize
Pattonsburg, Mo.

"'Arasan' Doubles Stand"

"Last spring I planted alfalfa, red clover, timothy and brome mixture. The part treated with 'Arasan' had 53 plants per square foot to 27 plants for untreated seed. So my fall seeding of alfalfa is with treated seed."

Albert Hook
Ft. Morgan, Colo.

"No Poor Spots"

"My 15 acres of registered alfalfa were seeded in rows for seed production. Rows with 'Arasan' show 2 to 3 inches taller growth after oats are cut. And the stand is more even as well as thicker in all parts of the field."

tent. It may well be below 17% protein by the time the last field is cut for the second time. The third cutting will normally be the poorest in eastern Kansas territory, and it is during the course of the third cutting that alfalfa may be processed which will drop as low as 12 to 14% protein and may drop below 100,000 I. U. vitamin A potency. This cutting comes at a period of the summer when temperatures are high and expectation of good rainfall is low. The conditions are also optimum for most severe loss of carotene (pro-vitamin A).

The fourth cutting, which is often the last cutting in the fall, will again be of high quality, equaling if not exceeding the quality of the first cutting.

Thus it will be seen that the bulk of dehydrated alfalfa, in the great producing area of the Middle West at least, occurs during June, July, August and September. The mixed feed industry, however, would like supplies delivered on a more or less uniform basis throughout the 12 months with a peak demand during the non-operating season of the dehydrators.

Storage Problem

This, of course, creates a problem of storage which with a non-perishable commodity would present no very great problem. One of the most valuable nutritive factors in this product, however, is carotene, which is quite perishable.

The product which the bulk of the feed trade now demands is that containing a guaranteed potency of vitamin A activity on delivery at their mills. As has been previously pointed out, carotene, which is the precursor of vitamin A, is subject to loss through oxidation, and this oxidation loss is a function of time and temperature. Thus, if a particular lot of dehydrated alfalfa meal contained 100,000 I. U. of vitamin A activity on the day of its production and that occurred during a period when average 24-hour temperature was at 70° F., then within 10 days the vitamin A could easily be reduced to between 90,000 and 95,000 I. U. if it had been cooled to room temperature immediately. Since it is a self insulator it would probably lose even more than 5,000 to 10,000 I. U. during the 10 days because of its being at higher than the average room temperature during most of the 10-day period.

Cooling the meal before bagging would be of some benefit in avoiding a high initial loss but this benefit would be of diminishing value as the length of the storage period increased, providing the storage facility is under normal atmospheric conditions.

The carotene being a very unstable chemical compound, subject to rapid oxidation and easily destroyed by enzymatic action, the alfalfa dehydrator is constantly under pressure to hurry the process and to dispose of the finished product before excessive loss of carotene penalizes him in realization price.

The loss of carotene is a function of time and temperature in the presence of oxygen. In an atmosphere containing no oxygen, its loss is nil. In normal air at zero Farenheit, its rate of loss is very greatly reduced. As the temperature increases in the presence of oxygen, the rate of loss climbs rather rapidly, and a carload

U.S. Alfalfa Meal Production

Production by Months, United States, by Kinds, 1943 to Date, in 1,000 Tons, as Reported by the U.S. Department of Agriculture

Combined Suncured and Dehydrated

Crop year:	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Total
1943-44	36.5	59.4	68.0	81.7	73.8	68.4	61.4	52.2	43.6	46.6	39.8	39.3	670.7
1944-45	35.0	57.2	98.4	99.1	102.9	95.6	86.4	57.3	52.1	46.8	41.4	50.8	829.7
1945-46	52.7	78.0	102.3	131.2	124.1	102.4	99.2	68.4	64.6	76.4	64.7	56.7	1,025.1
1946-47	90.4	116.9	171.3	191.3	136.3	116.6	96.8	57.3	40.6	43.4	36.4	40.5	1,137.7
1947-48	42.2	90.6	152.4	158.7	144.6	122.7	99.6	69.0	50.8	49.1	32.5	35.9	1 038.1
1948-49	65.0	131.3	152.5	163.6	147.6	113.1	85.4	61.9	43.2	30.6	29.3	40.5	1,044.0
1949-50	61.6	125.8	168.2	166.0	153.1	123.9	105.3	59.1	45.1	30.0	29.0	40.7	1,107.8
1950-51	58.8	96.1	192.6	170.9	176.4	150.0	111.2	43.9	35.8	36.9	33.0	38.1	1,134.7
1951-52	34.6	84.7	155.7	186.7	151.8	....	....	....	....	....	....	....	....

Suncured Alfalfa Meal

1943-44	30.0	34.4	26.2	30.9	31.9	37.0	39.5	44.6	41.2	42.8	37.5	36.6	432.6
1944-45	26.9	26.5	35.2	36.9	45.4	41.4	37.8	47.7	50.3	45.3	43.0	47.1	483.5
1945-46	35.9	25.1	34.1	39.7	38.3	40.7	52.4	59.1	63.2	74.4	61.0	50.8	573.7
1946-47	47.7	44.2	62.8	68.1	50.1	42.4	43.4	37.3	26.3	28.4	23.2	28.8	530.7
1947-48	26.0	19.4	29.2	27.1	30.2	31.2	36.2	38.6	29.6	41.9	27.9	27.4	374.9
1948-49	32.9	18.7	26.0	23.2	25.5	23.4	23.5	30.6	27.1	25.6	27.7	27.7	323.5
1949-50	17.8	13.8	24.7	28.0	29.5	25.6	29.9	34.6	32.0	36.7	30.8	17.9	301.3
1950-51	13.2	15.8	23.0	19.5	23.5	20.3	18.9	21.5	20.5	23.4	19.2	16.0	233.8
1951-52	13.4	14.9	15.0	28.3	23.1	....	....	....	....	....	....	....	....

Dehydrated Alfalfa Meal

1943-44	6.5	25.0	41.8	50.8	41.9	31.4	21.9	7.6	2.4	2.8	2.3	2.7	238.1
1944-45	8.1	30.7	63.2	62.2	57.5	54.2	50.6	9.6	1.8	1.5	2.4	3.7	346.2
1945-46	16.8	52.9	68.2	91.5	89.8	61.7	46.8	9.7	2.4	2.0	3.7	5.9	451.4
1946-47	42.7	72.7	108.5	123.2	86.1	74.2	53.4	20.0	5.3	5.0	4.2	11.7	607.0
1947-48	16.2	71.2	123.2	131.6	114.4	91.5	63.4	30.4	11.0	7.2	4.6	8.5	663.2
1948-49	32.1	112.6	126.5	135.4	122.1	90.0	61.6	11.3	6.1	1.6	3.4	17.6	720.5
1949-50	43.8	112.0	143.5	138.0	123.6	98.3	75.4	24.5	13.1	3.3	8.2	22.8	806.5
1950-51	37.6	80.3	169.6	151.4	152.9	129.7	92.3	21.4	15.3	14.5	13.8	22.1	900.9
1951-52	22.2	69.8	137.7	158.4	128.7	....	....	....	....	....	....	....	....

Source: Grain Branch, Production and Marketing Administration, U.S. Department of Agriculture.

Dehydrated **ALFALFA MEAL** High Carotene

From the Fertile Red River Valley of Minnesota

Write - Phone - Wire

RED RIVER ALFALFA CO.

Earl Saul Phone 61 Crookston, Minn.

1951 Farm Tests Prove the Value of "Arasan" for Grass and Legume Seed

The table below shows the average results from the 72 field trials conducted this year with "Arasan" seed treatment on each kind of grass, legume, and grass-legume seed mixture tested:

CROP	NUMBER OF TESTS	AVERAGE INCREASE IN STAND
ALFALFA	28	33%
ALFALFA-CLOVER MIXTURE	11	44%
SWEET CLOVER	7	6%
OTHER LEGUMES	9	22%
SUDAN GRASS	7	51%
OTHER GRASSES	10	41%

Walter J. Pierce
Hutchinson, Kansas

"38% Increase"

"It paid to check my 15-acre test field of sweet clover. I couldn't see any big difference, but an actual count showed almost 38% increase in stand from seed treated with 'Arasan' over untreated seed."

Rex E. Cummings
Gridley, Calif.

"Third-Cutting Yield Up"

"At third cutting, I baled 10 more 75-lb. bales per acre from the seeding treated with 'Arasan' than from untreated alfalfa. For a 25-cent investment I received an extra $10 worth of hay per acre on just one cutting. I can't afford not to treat."

B. E. Bergman
St. Charles, Ill.

"Stronger Roots"

"Better growth with 'Arasan' means stronger roots as well as tops. My alfalfa seed treated with 'Arasan' produced double the stand of untreated seed. And the important field to me is the one with plants on it."

Seed Treatment Is

A NEW ADVANTAGE

For Seedsmen

- Gives your salesmen a convincing new sales approach.
- Equips your dealers to supply their customers who ask for treated seed.
- Gives your customers greater satisfaction with seeding results . . . for this new development increases successful seedings and reduces failures.
- Gives you all the advantages of offering and promoting "completely processed seed."

For full information on the value of "Arasan" seed treatment for grass and legumes, and for assistance in setting up seed treating as a part of your processing line, write to Du Pont, Semesan Section, Wilmington, Delaware.

On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.

ARASAN®

SEED DISINFECTANT AND PROTECTANT

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING

. . . THROUGH CHEMISTRY

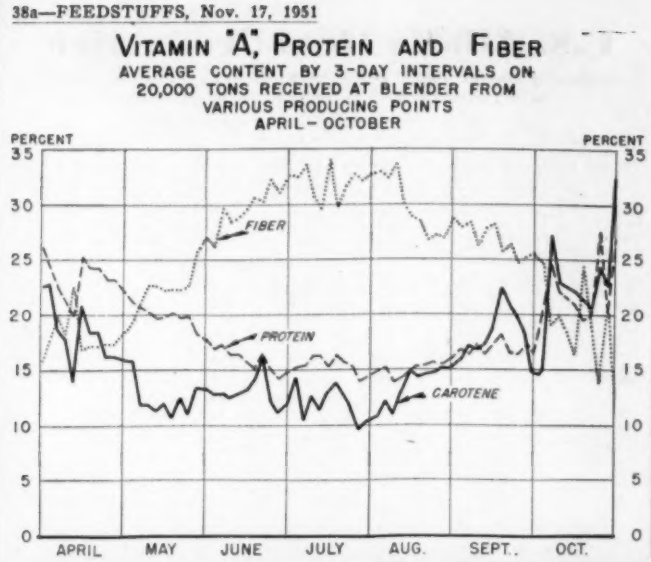
INVESTIGATE THE FIELD HAY CHOPPER THAT WAS DEVELOPED AND REFINED TO DO A BETTER JOB FOR THE ALFALFA GROWER

ALLISON HARVESTER

MANUFACTURED BY THE

ALLISON MANUFACTURING COMPANY

BOX 264, OLATHE, KANSAS



of meal shipped from the Midwest to the Atlantic Seaboard in midsummer may easily lose from 20 to 30% of its vitamin A activity in transit.

As was pointed out previously, there are several ways in which the loss of perishable carotene may be retarded or even stopped.

One such method is by storing the freshly produced meal in gas tight containers after first purging both the meal and the container of all oxygen with an inert gas. This process is covered by patents. In the absence of all oxygen the destruction of carotene is stopped.

Another method is to store the freshly produced meal in refrigerated storage facilities. Under this method, the lower the temperature, the greater the preservation, but the economics of refrigeration limit the reduction of temperature, and common practice is probably to use between 10° F. and 32° F. as giving the maximum preservation consistent with cost of operation.

Another method is that of adding a chemical preservative to the meal as it is produced. Sometimes this preservative is added to the wet alfalfa before dehydration and sometimes to the finished dehydrated meal. The preservation of carotene in the meal by this method may not be of as great a magnitude as in the two previous methods, but it has the advantage of being capable of some degree of effectiveness under normal atmospheric conditions right up to the time the meal is fed, whereas the other two methods lose their effectiveness as soon as the meal is removed from storage and loss of carotene resumes from whatever level it has reached prior to storage.

It is only by using one of the preceding methods that the producer of dehydrated alfalfa meal is enabled to make uniform shipments of guaranteed 100,000 I. U. vitamin A activity meal to the feed manufacturer throughout the year.

The exception to this is made in the case of a Midwest producer who may purchase freshly made alfalfa meal of high vitamin A potency from some winter producing area such as the Rio Grande Valley of Texas, the Imperial Valley of California or the Southern Gila Valley of Arizona, ship it to the Midwest to blend with dry storage meal of low vitamin A content to make a uniform grade. This, of course, involves high freight charge and is not always possible to do at a profit.

Price Effects

Almost any producer can ship meal of a guaranteed potency of vitamin A of 100,000 I. U. or better during the active producing season, and there is usually a glutted market from late April to mid-August on the Kansas City market. Near the end of the heavy producing season the supplies of guaranteed meal lessen and the price starts climbing. The lessening of high carotene meal available for shipment directly from the dehydrating plant combined with the costs of blending and high cost carotene preservation storage causes the price to climb to a peak which is usually reached in late January and carries through at least until mid-March.

Marketing Grades

The various recognized grades sold to feed mixers or to blenders are:

Leaf Meal: not less than 20% protein and not more than 18% fiber and usually guaranteed to contain not less than 150,000 I. U. vitamin A and often containing much more than that.

20% Protein Meal, containing 20% fiber or 20% Protein Meal contain-

American Dehydrators Assn:

The alfalfa dehydrating industry can take pride in the progress it has made during recent years. Much of this progress can be attributed to the sponsorship of many worthwhile projects by the American Dehydrators Assn. The research program, to cite a specific example, is definite proof that the alfalfa dehydrating industry is interested in constantly improving its product.

Product improvement is also of vital concern to the feed manufacturing industry. Through mutual cooperation our industries can make an even bigger contribution to our customers, the poultry and livestock feeders of the nation. It is with pleasure that I congratulate the American Dehydrators Assn. on its 10th anniversary and wish it and the industry it represents continued success in the future.

WALTER C. BERGER
American Feed Manufacturers Assn.

Dependable—
Economical—
Profitable—

Gump-Built Equipment for Your Feed Plant

GUMP Equipment is designed, built and guaranteed for heavy duty, continuous performance in the important mill operations of grinding, feeding, sifting, mixing, scalping, weighing and packing.

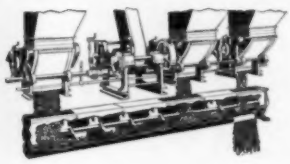
Draver Feeders
Known industry-wide for accurate feeding and proportioning by volume. Dependable, sturdy construction assures low cost performance. Built in more than 100 sizes and models, with capacities from ½ oz. per min. up to 1,000 cu. ft. per hour.

Draver-Master Continuous Mixing Systems
Accurately proportion and thoroughly mix various ingredients into a uniform, finished product. Save labor and horsepower, and assure positive, mechanical control over blends at low "per ton" cost.

Bar-Nun Rotary Sifters
Give top performance in scalping feeds or sizing crumbles. Complete rotary motion, mechanically controlled. Large capacity per sq. ft. of screen area, with minimum power and maintenance requirements. Built in 9 sizes and with level or inclined sieves.

Vibrox Packers
Fast, rocking, vibrating motion efficiently packs mixed feed as it falls into bag from spout or scale. Effect big savings in bag costs, labor and packing time. No. 36 packs 75 to 150-lb. bags; other models pack smaller size bags and drums and barrels. Stationary or portable.

Draver "Micro-Master" Feeder


Draver Continuous Mixing System

Bar-Nun Rotary Sifter

Vibrox Bag Packer

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☐ Vibrox Packers
☐ General Catalog No. 102

We manufacture feeds:

Capacity ..... tons/day

ing 22% fiber or 20% Protein Meal without mention of fiber: These 20% grades are also usually guaranteed to contain not less than 150,000 I. U. vitamin A activity on arrival at destination and are mostly in demand by blending plants operated by producers or companies whose principal business is buying, blending and marketing meal purchased from producers.

17% Protein Meal guaranteed to contain not less than 100,000 I. U. vitamin A activity on arrival destination: This grade has in the past two or three years become almost the standard grade on the market and is in greatest demand by the feed manufacturers.

17% Protein Meal carrying lower guarantees of vitamin A activity or carrying no guarantee of vitamin A: This is probably the second largest selling grade on the market and the price differential between this grade and 17%—100,000 I. U. will vary during the year from $2 to $3 ton to as high as $25 ton.

15% Protein Meal, sometimes carrying a vitamin A potency guarantee of 100,000 I. U., sometimes a guarantee of something less than 100,000 I. U. but most frequently carrying no vitamin A guarantee: This grade, too, is used in blending to a large extent to make possible the delivery of a standard grade throughout the 12 months of the year.

Then there are **13% Protein** and **Stem Meal** which are only in limited supply and not a big factor in the market.

Some producers will sift alfalfa at times to get a higher grade of meal from the under size product and a poorer quality from the oversize which may be sold as such for a low quality feed ingredient or in some cases blended back with a higher grade to make a standard 17% protein product.

A definition of grades may be found in the Trade Rules booklet of the American Dehydrators Assn. These grade definitions comply with the rules laid down by the Association of American Feed Control Officials.

Special Products

A number of special products are being produced by various firms in the industry. There is a small amount of alfalfa meal being produced for human consumption. It, of course, requires special handling throughout the process and is of high relative value. Some meal is being produced for the extraction of chlorophyll as a pharmaceutical preparation. Special care must also be exercised in its processing.

American Dehydrators Assn.:

Rapid advances in our knowledge of animal nutrition have brought to light many needs previously unrecognized.

We have traveled a long way from "protein, carbohydrates and fat" to the 50-odd nutritional requirements known today — with more probably coming.

Alfalfa has always been known to have peculiar feeding value and as research progresses, it seems to increase our evaluation of dehydrated alfalfa.

Your association is to be commended for the splendid research work that you have done and for the fine contacts and cooperation established with our state experiment stations and the USDA.

With animal numbers pressuring steadily on our available feed supply, it is more and more important that all feeds be used to the utmost efficiency. Alfalfa and alfalfa dehydrators are playing a big part in this important feature of our national economy.

Sincerely,

E. G. CHERBONNIER
Grain & Feed Dealers National Assn.

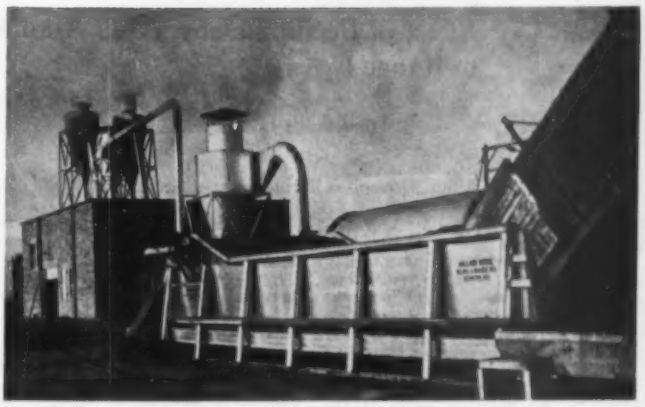
ALFALFA MEAL SHOWS VALUE IN SOW RATION

FOUNTAIN CITY, WIS.—Joseph Greshik, Fountain City, dehydrator and owner of a pig hatchery, had this to report on feeding alfalfa meal to sows:

More than 50 sows were self-fed a ration 40% of which was dehydrated alfalfa meal during gestation and lactation. The average number of pigs weaned per litter was 8½.

KING OF THE LEGUMES

CLEVELAND—A story, "King of the Legumes," appeared recently in the Cleveland Plain Dealer Pictorial Magazine. Color photographs of Ohio alfalfa processing were printed with the article.



SELF-FEEDERS—Much manpower has been saved in the dehydrating industry in the past few years by the development of trailer dumps and self-feeders. Here is an installation at the Beerman Bros. Dehydrating Co. at Dakota City, Neb. The trailer, tilted in the air at the right, is discharging its load into the feeder which carries the alfalfa to the dehydrating drum.

For BLENDING and BULK LOADING

FORSTER ENGINEERING AND FORSTER EQUIPMENT

Dehydration is only the beginning in the production of a high-quality meal. The Forster-equipped plant is able to control the finish and final analysis of carotene, Vitamin A count, protein, moisture control, etc. Makes profitable operation under all conditions.

FORSTER ALFALFA SEPARATOR

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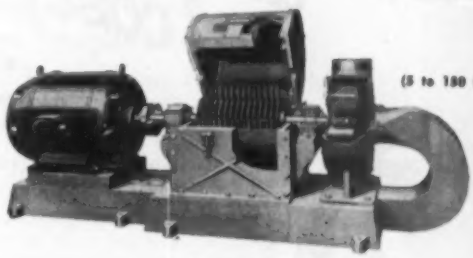

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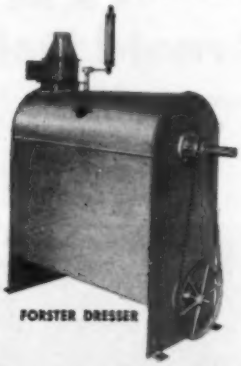

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PROJECT: Effect of Feeding Dehydrated Alfalfa to Range Ewes

LEADERS: Lorin E. Harris and C. Wayne Cook

PLACE: Utah Agricultural Experiment Station, Logan

Most of the sheep in the Intermountain West are grazed on the open range. Their entire food supply usually comes from range plants whether these are deficient in essential nutrients, or whether there is an excess of certain constituents that are toxic or poisonous. Because of scarce rainfall, frequent drouths, rough topography and variable soil fertility the nutritive value of the range forage is often borderline, or the plants are actually deficient in essential nutrients. In some seasons carotene may be deficient in range forage. This experiment was conducted to determine whether supplements of dehydrated alfalfa would help to maintain the health of the sheep, increase the lamb crop, or increase wool production.

Four groups of range ewes received the following amounts of dehydrated alfalfa pellets every other day in addition to range forage, monosodium phosphate, and salt from November until May: none, 0.08, 0.16, and 0.23 lb. respectively. The ewes were kept on the winter range from November until May. They were then trailed to the summer range for lambing.

The sheep fed dehydrated alfalfa lost less weight from November until May than those not receiving dehydrated alfalfa (see table). It should also be noted that the birth weight of the lambs was increased when the ewes received alfalfa. However, the feeding of dehydrated alfalfa apparently did not increase the weight of the wool, or the number of lambs born, or the weaning weight of the lambs.

While these results do not show outstanding advantages for the feeding of dehydrated alfalfa pellets they do indicate that some benefits may be derived from such feeding. However, such an experiment should be repeated several years before final recommendations are made.

(Note: Dr. Lorin E. Harris is chairman of the institute of nutrition and professor of animal husbandry, and Dr. C. Wayne Cook is associate professor of range management at Utah.)

In addition to the accompanying reports on American Dehydrators Assn. research projects, there are other reports beginning on page 9a, in this section.

The Live Weight Gain, Grease Wool Weight, Lamb Birth Weight, Lamb Crop, Lambs Docked and Weaning Weight of Lambs of Ewes Fed Various Amounts of Dehydrated Alfalfa Pellets

Dehydrated alfalfa fed lb.	Carotene in alfalfa mgm.	Wt. loss November to May lb.	Grease wool lb.	Lamb birth weight lb.	Lamb crop %	Lambs docked %	Weaning weight of lambs lb.
0.0	0.0	7.6	10.8	9.8	114	107	30.4
0.08	4.0	2.9	10.4	10.1	79	79	26.8
0.16	8.0	2.8	11.0	10.5	87	87	31.7
0.23	11.5	3.1	10.7	10.2	100	93	30.9

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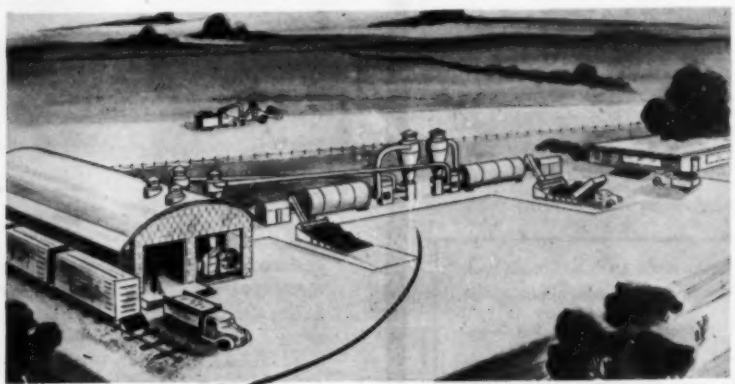

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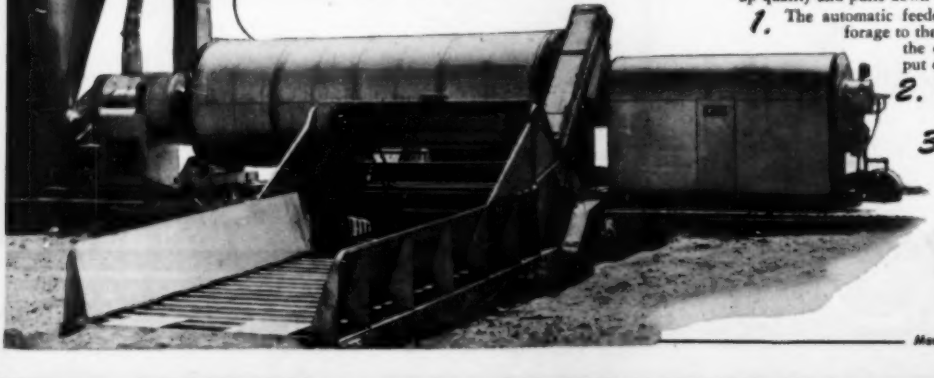

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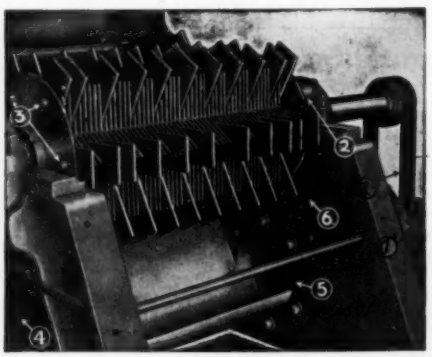

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PROJECT: The Nutritive Value of Dehydrated Alfalfa Meal in Swine Rations

LEADER: S. W. Terrill

PLACE: Illinois Agricultural Experiment Station, Urbana

Because the addition of dehydrated alfalfa meal to rations fed to sows maintained continuously in drylot during pre-gestation, gestation and lactation has consistently increased the percentage survival of pigs to weaning age, it is suggested that high-quality dehydrated alfalfa meal contains an unknown survival factor necessary for optimum gestation-lactation performance.

One of the objectives of a gestation-lactation experiment completed at the Illionis Station in the summer of 1951 was to study the effect of adding 10% high-quality dehydrated alfalfa meal to a "corn-solvent soybean oil meal" basal ration which included additions of a complex mineral mixture and vitamins A and D, thiamine, riboflavin, niacin, calcium pantothenate, pyridoxine, folic acid and choline chloride. Each group of gilts was fed in drylot continuously on the same experimental treatment from weaning age until weaning litters of pigs. The results are briefly summarized in the Table.

A higher percentage of the gilts in Lot 2 (basal ration plus 10% high-quality dehydrated alfalfa meal) farrowed litters and fewer services were required per conception than for gilts in Lot 1 (basal ration). Although the gilts fed dehydrated alfalfa meal farrowed fewer pigs per gilt and farrowed a higher percentage of dead pigs, they farrowed pigs that were slightly heavier at birth and averaged amost 10 lbs. heavier per pig at weaning age. It is of interest to note that all pigs farrowed alive in Lot 2 were classified as strong and that all survived to weaning age. These data further suggest that high-quality dehydrated alfalfa meal contains an unknown survival factor necessary for optimum gestation-lactation performance.

(Note: Dr. S. W. Terrill is head of the swine division of the animal science department of the University of Illinois, Urbana.)

Results During Gestation and Lactation (1950-51)

	Lot No. and treatment	
	1	2
Items compared	Basal ration	Basal ration plus 10% dehydrated alfalfa meal
No. of gilts	7	7
No. of gilts to farrow	5	6
Av. No. services per conception	1.3	1.0
Av. No. pigs per litter farrowed	8.4	6.8
Av. birth weight a pig, lb.	2.7	2.9
Percentage of pigs farrowed:		
Strong	92.8	87.8
Medium	2.4	0.0
Weak	2.4	0.0
Dead	2.4	12.2
Av. No. pigs weaned per litter	6.2	6.0
Av. weight per pig:		
21 days, lb.	9.3	11.3
56 days, lb.	16.3	25.9
Percentage of pigs weaned	73.8	87.8

ADA ISSUES BOOKLET ABOUT POULTRY FEEDS

KANSAS CITY — A new 20-page booklet, "Dehydrated Alfalfa Meal in Today's Poultry Feeding," has been issued by the American Dehydrators Assn.

Copies of the booklet may be obtained by addressing the association at the Dwight Bldg., Kansas City, Mo.

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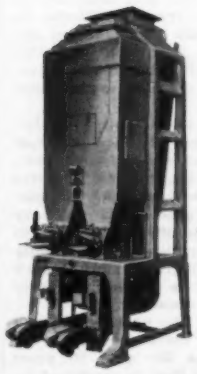

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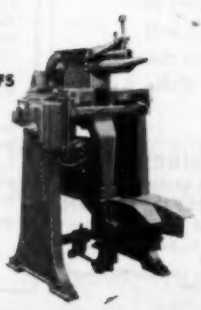

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PROJECT: Dehydrated Alfalfa Pellets as a Supplement for Wintering Ewes

LEADER: J. L. Van Horn

PLACE: Montana Agricultural Experiment Station, Bozeman

The Montana Agricultural Experiment Station conducted an experiment during the winter of 1950-51 in which dehydrated alfalfa pellets were compared with other types of supplements. A band of over 1,000 ewes was divided equally into four groups and marked with different colored brands. The groups were equalized for breeding, age and previous treatment. Winter grazing was available until January; after this time, mixed grass and alfalfa hay was fed to all groups until lambing time. Each morning during the winter, the ewes were separated into the four respective groups.

The first group did not receive any pellets until 30 days before lambing. During this last period before lambing, Group I ewes received ½ lb. per head daily of a pellet containing approximately 20% protein.

J. L. Van Horn

The second group received ½ lb. per head daily of a pellet containing approximately 20% protein. This pellet contained a grain base and was built up in protein with soybean oil meal.

Group III was fed ½ lb. per head daily of a pellet consisting of 50% of the kinds and proportions of feeds used in the pellet fed group II; the other 50% was dehydrated alfalfa meal.

The fourth group received ½ lb. per head daily of a pellet containing straight dehydrated alfalfa.

The three groups of ewes receiving pellets gained from 1.7 lbs. to 2.9 lbs. more during the winter than the first group. Very little difference was found in the percent of ewes lambing. The group receiving the pellet containing 50% dehydrated alfalfa had a 130% lamb crop, the highest of any of the groups.

The group receiving straight dehydrated alfalfa pellets weaned 95 lbs. of lamb per ewe. This weaning weight was approximately 5 lbs. more than the weaning weight of Group I which did not receive pellets until 30 days before lambing. If lambs were valued at 32¢ per lb., this weight advantage would amount to $1.60 per ewe.

Because of the longer feeding period involved, the cost of feeding straight dehydrated alfalfa pellets was 72¢ more per ewe than the cost of feeding Group I. Therefore, the net profit was approximately 88¢ in favor of the fourth group. This group also produced a slightly larger amount of clean wool.

(Note: Mr. Van Horn is a member of the animal industry department staff at the Montana station.)

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I hope the next decade will bring as much progress in industry as the past 10 years have, and that its continued research will help even more in the proper evaluation of its products.

Sincerely,
CHARLES H. HUBBELL.

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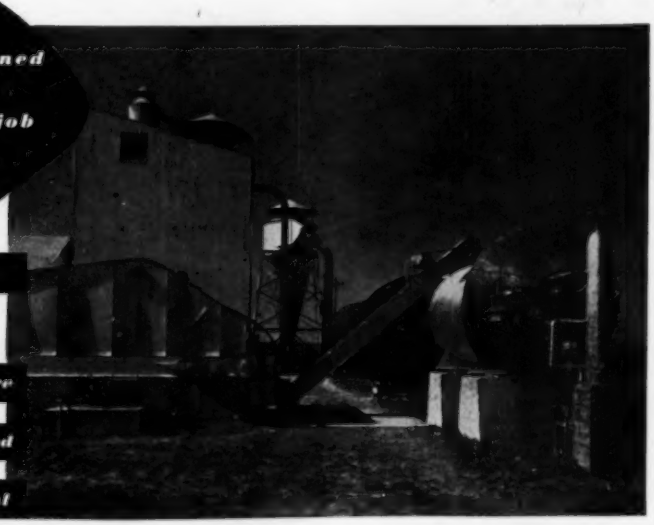

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A Bibliography of the Newest Alfalfa Literature

Here is a bibliography of recent literature dealing with alfalfa and its utilization. This is not a complete record but covers many of the major publications of scientific interest. The compilation was made by the American Dehydrators Assn.

Ackerson, C. W., R. L. Borchers, J. E. Temper and F. E. Mussehl. **Alfalfa in Chick Rations.** Nebraska 63rd Annual Report (p. 72) May, 1950.

Ackerson, C. W., R. L. Borchers, J. E. Temper and F. E. Mussehl. **Growth Inhibition of Saponin in Alfalfa Feeding.** Nebraska 63rd Annual Report (p. 73) May, 1950.

Ackerson, C. W., R. L. Borchers, and F. E. Mussehl. **The Effect of Additions of Dehydrated Alfalfa Meal to High Corn Chick Rations.** Nebraska Research Bulletin 168, January, 1951.

Ackerson, C. W., R. L. Borchers, and F. E. Mussehl. **Dehydrated Meal for Chicks.** Flour & Feed 52(5) p. 22, October, 1951.

Arizona Agricultural Experiment Station. **Influence of the Chemical Composition of Alfalfa Upon Its Digestibility By Cattle.** Arizona A.E.S. 60th Annual Report (p. 26), June 30, 1949.

Armstrong, R. H. and B. Thomas. **The Biological Value of the Proteins of Lucerne and Frefoil and of an Earthnut Meal as Determined by the Thomas - Mitchell Method.** British Journal of Nutrition 4(2&3) 166, 1950.

Baker, Guy N., E. C. Conard, and J. C. Adams. **Feeding Steers on Irrigated Brome-Alfalfa Pasture.** Nebraska 63rd Annual Report (p. 97), May, 1950.

Barnhart, C. E. **Protein and Vitamin Supplements For Growing-Fattening Pigs on Ladino Clover and on Alfalfa.** Jour. Animal Science 9(4) 673, 1950 (Proc.)

Bartley, E. E., C. B. Parrish, F. C. Fountaine and C. H. Whitnah. **Effects of Supplementing Dairy Cow Rations With Dehydrated Alfalfa.** Jour. Dairy Sci. 34(6) 509, 1951 (Proc. of the 46th Annual Meeting).

Beeson, W. M. **Recent Developments in Swine Nutrition.** Proc. of Ohio Animal Nutrition Conference (p. 18) November, 1950.

Bolin, D. W., E. W. Klosterman, and Cris Jensen. **Prairie Hay Good Source of Vitamin A.** North Dakota 1949-1950 Annual Report (p. 42).

Brew, William B. **The Detection of Sun-Cured Alfalfa In Dehydrated Alfalfa Meal.** Jour. Assoc. of Official Agr. Chem. 33(4) 966, 1950.

Burrough, D. E., D. M. Kinch, A. E. Purcell and S. M. Hauge. **Carotene-Destroyer In Hay Inactivated By Heat.** Indiana 63rd Annual Report (p. 62) 1949-1950.

Card, L. E. **The Value of Dehydrated Alfalfa In Poultry Rations.** Ninth World's Poultry Congress Official Report, Vol. II (p. 39) 1951.

Conard, E. C., T. W. Dowe, V. H. Arthaud, and L. C. Newell. **Management of Bromegrass-Alfalfa Pasture.** Nebraska 63rd Annual Report (p. 99) May, 1950.

Culbertson, C. C., P. S. Shearer, Edwin A. Kline. **Regular and Chopped Alfalfa Hays and Full Versus Limited Grain Feeding With Corn Silage for Fattening Steers.** Iowa A.E.S. Report on Agric. Res. 1948-1949 (p.148).

Davidson, D. N., T. B. Keith, and C. W. Hickman. **Concentrate and Alfalfa Hay Rations for Growing and Fattening Idaho Lambs.** Idaho B. 281, Sept., 1950.

Dowe, Thomas W. and V. H. Arthaud. **Distillers' Dried Grains With Solubles, Linseed Meal Pellets and Dehydrated Alfalfa Pellets As Protein Supplements For Fattening Steer Calves.** (p. 96) Nebraska 63rd Annual Report, May, 1950.

Doty, D. M., H. D. Jackson and F. W. Quackenbush. **Phosphorus In Alfalfa Studied.** Indiana Annual Report (p. 26) 1949-1950.

Graham, Wm. R., Jr., Geo. O. Kohler and Elroy E. Frye. **Palatable Beverages From Forage Crops.** U. S. 2,483, 634, October, 1949.

Griffith, R. B. and C. R. Thompson. **Factors Affecting the Destruction of Carotene in Alfalfa.** Botan. Gaz. III, 165-75 (1949).

Heinemann, W. W., H. P. Singleton, M. E. Ensminger and W. E. Ham. **The Feeding Value of Wood Molasses and Dehydrated Alfalfa When Fed To Fattening Steers** (Preliminary Report) Washington Station Circular 117, September, 1950.

Horton, O.,H. and K. E. Harshbarger. **A Comparison of U. S. Grades of Alfalfa Hay for Milk Production.** Jour. Dairy Science 34(6) 491, 1951 (Proceedings of 46th Annual Meeting.)

Huffman, C. F. and C. W. Duncan. **The Nutritive Value of Alfalfa Hay. IV. Beet Pulp, Corn Gluten Meal and Soybean Oil Meal as Supplements for an All-Alfalfa Hay Ration for Milk Production.** Jour. Dairy Science 33 (10) 710, 1950.

Idaho A.E.S. **Alfalfa Hay Levels for Feeding Steers and Lambs.** Idaho 57th Annual Report (p. 6) 1949-1950.

Keith, T. B., Russell H. Stark and C. W. Hickman. **Alfalfa and Alfalfa-Brome Grass Hays for Growing and Fattening Lambs.** Jour. Animal Science 9(4) 491, 1950.

Kingsley, A. F., E. T. Mertz, V. L. Singleton. **What Affects Proteins and Amino Acids In Alfalfa.** Indiana 63rd Annual Report (p. 61) 1949-1950.

Klosterman, Earle W., D. W. Bolin, W. E. Dinusson and Earl L. Lasley. **The Effect of Methionine Supplementation Upon the Utilization of Pea and Alfalfa Proteins By Sheep.** Jour. Animal Science 10(2) 439, 1951.

Kodras, W. T. and J. S. Butts. **Chick Growth Depressing Factor in Sun-Cured and Dehydrated Alfalfa Meals.** Poultry Science 30(2) 280, 1951.

Lindley, C. E., M. E. Ensminger, and B. H. Schneider. **Grass, Grass-Alfalfa Mixtures, and Fertilizers Treatments for Beef Production in Eastern Washington.** Washington Station Circular III, September, 1950.

McElroy, L. W., H. A. Rigney, and H. H. Draper. **Choline Content of**

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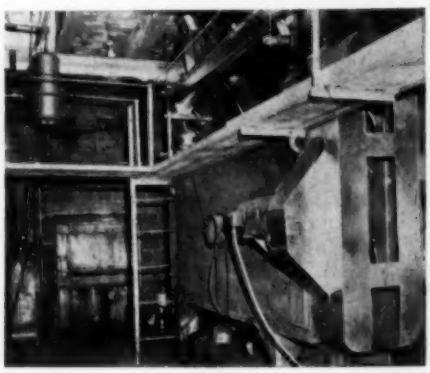

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Monroe, C. J. **Dairy Feeding Investigations in Ohio.** Proceedings of Ohio Animal Nutrition Conference November, 1950 (p. 34).

Moule, G. R. **Some Problems of Sheep Breeding in Semi-arid Tropical Queensland.** Austral. Vet. Jour. 26, 29-37, 1950.

Nutrition Reviews. **Stability of Carotene in Dehydrated Alfalfa Meal.** Nutrition Reviews 9(5) 152, 1951.

Nutrition Reviews. **Improving Alfalfa for More Healthy Livestock.** Nutrition Reviews 9(9) 262, 1951.

Nutrition Reviews. **Role of Sterols in Counteracting Growth Depression From High Alfalfa Feeds.** Nutrition Reviews 9(8) 236, 1951.

Oregon A.E.S. **Chicken Nutritional Problems Investigated.** Oregon St. Bulletin 491, Annual Report (p. 114) 1949-1950.

Peeler, H. T., H. Yacowitz, C. W. Carlson, R. F. Miller, L. C. Norris and G. F. , Heuser. **Studies on the Vitamin B_{12} Content of Feedstuffs and Other Materials.** Journal of Nutrition 43(1) 49, 1951.

Petering, Harold G. and Wilbur H. Petering. **Stabilization of Provitamin A.** U. S. 2,482, 635, September 20, 1949.

Peterson, D. W. **Some Properties of Factor in Alfalfa Meal Causing Depression of Growth in Chicks.** Jour. Biol. Chem. 183, 647-53, 1950.

Peterson, D. W. **Utilizing More Alfalfa Meal in Chick Rations.** California Animal Industry Conference (Proceedings) (p. 27) 1950.

Peterson, D. W. **Effect of Sterols on the Growth of Chicks Fed High Alfalfa Diets or a Diet Containing Quillaja Saponin.** Journal Nutrition 42(4) 597, 1950.

Phillips, C. A., S. D. Hardin, and W. E. Thomas. **The Effect of the Corn-Alfalfa Hay Ratio on the Digestibility of the Different Nutrients by Sheep.** Jour. Animal Science 10(2) 424, 1951.

Ross, O. B., W. J. Van Arsdell, A. B. Nelson, R. W. MacVicar, W. D. Campbell, and A. E. Darlow. **The Relative Value of Alfalfa Hay and Cottonseed Cake for Winter Feed in a Commercial Cow Herd.** Okla. Misc. Pub. 22, June, 1951.

Saarinen, P., M. A. Sami, J. C. Shaw, and L. A. Moore. **The Adequacy of an All-Alfalfa Hay Ration for Milk Secretion.** Jour. of Dairy. Science 34(4) 287, 1951.

Sahadeo, M. A., P. Seshagiri Rao, Sudha Deolalkar, and K. V. Giri. **Vitamin C Content of Lucerne and the Factors Controlling Its Stability.** Proc. Indian Acad. of Sci. 30B, 331-7 (1949).

Sanders, G. P., J. A. Hupfer, Jr. and H. G. Wiseman. **Detection of Adulteration in Alfalfa Meal by Means of the Phosphatase Test.** Jour. Dairy Science 34(6) 509, 1951.

Schneider, Burch H. and T. C. Huang. **Alfalfa, Soil and Antibiotics in the Nutrition of Your Growing Pigs.** Washington Station Circular 112, September, 1950.

Schrenk, W. G. and Ralph E. Eilker. **Mineral Composition of Dehydrated Alfalfa.** Kansas Academy of Science 53(3) 422, 1950.

Senior, Brendan J. **The Significance of Crude Fibre in the Nutrition of Poultry.** Ninth World's Poultry Congress. Official Report, Vol. I, p. 32, 1951.

Severson, G. M. and R. E. Woodward. **Carotene Retention in Alfalfa.** Nebraska 63rd Annual Report (p.93) May, 1950.

Skaare, S. Lucerne. **Some Data on Cultivation and Feeding Value.** Tidsskr. Norske Landbruk, 1950, 57, 219-226.

Smirnova, S. **Judging Alfalfa by the Vitamin Content.** Sovet. Agron. 1949, No. 6, 11-15.

South Africa. **The Nutritive Value of Lucerne Hay.** Farming in South Africa, 1950, 25, 42-46.

Swift, R. W., R. L. Cowan, G. P. Barron, K. H. Maddy and E. C. Grose. **The Effect of Alfalfa Ash Upon Roughage Digestion in Sheep.** Jour. Animal Science 10(2) 434, 1951.

Tangl, H. **Production of a New Type of Powdered Alfalfa With a High Biological Value.** Agrartud., 1949, 1, 456-460.

Thomas, J. W. and L. A. Moore. **Factors Affecting the Antirachitic Activity of Alfalfa and Its Ability to Prevent Rickets in Young Calves.** Jour. Dairy Science 34(9) 916, 1951.

Tisdale, S. L., R. L. Davis, A. F. Kingsley and E. T. Mertz. **Methionine and Cystine Content of Two Strains of Alfalfa as Influenced by Different Concentrations of the Sulphate Ion.** Agronom. J. 42, 221-225, 1950.

U.S.D.A. **Means Sought for Preserving Nutritive Values in Alfalfa.** USDA 1950 Report of the Chief of Bureau of Agricultural and Industrial Chem. (p. 53).

Vestal, C. M. and G. O. Mott. **Ladino Proves Superior as Swine Pasture.** Indiana 63rd Annual Report (p. 52) 1949-1950.

Whitman, W. C., M. Buchanan, and D. W. Bolin. **Brome-Alfalfa Pasture Mix Preferred by Sheep.** North Dakota 1949-1950 Annual Report (p. 41).

Wilbur, J. W., R. K. Waugh, S. M. Hauge and J. H. Hilton. **Alfalfa-Bromegrass Silage for Dairy Cows.** Indiana Circular 372, July, 1951.

Wyoming A.E.S. **Alfalfa Pellets for Dairy Cows.** Wyoming 60th Annual Report (p. 18) 1949-1950.

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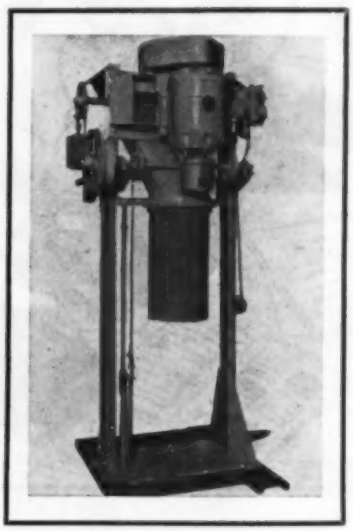

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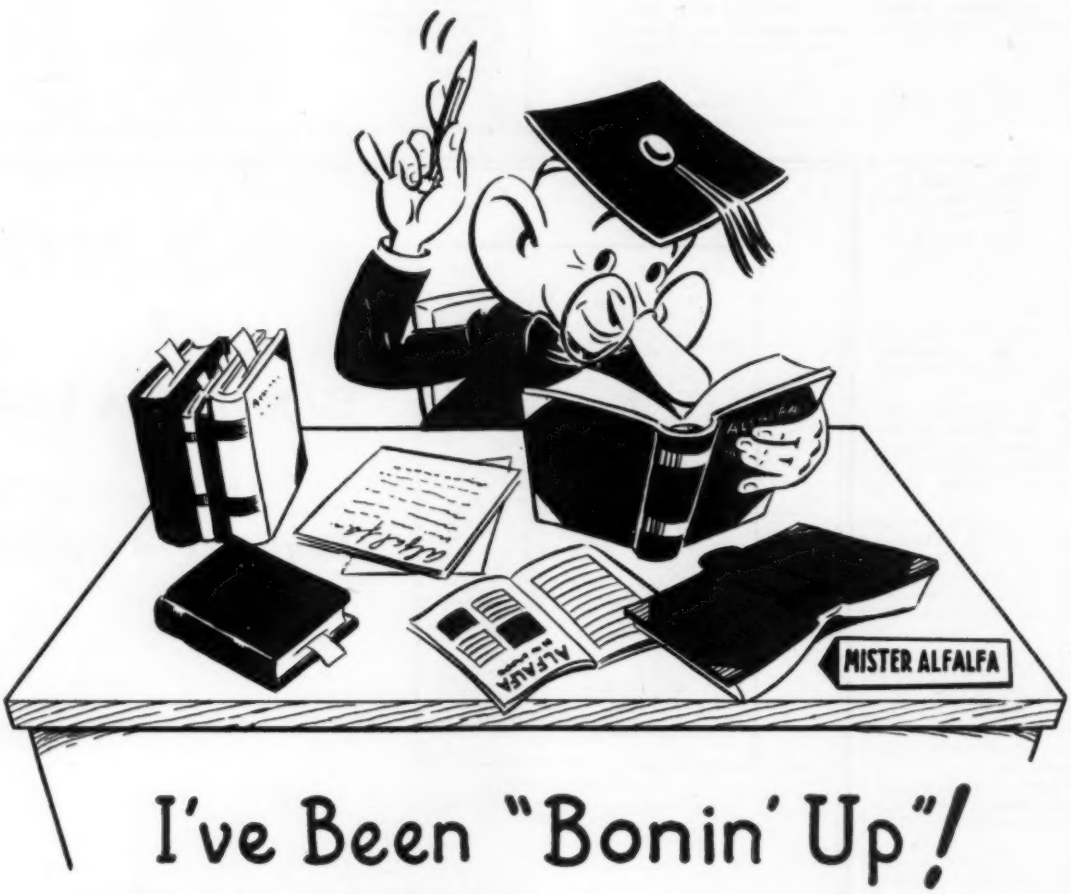

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Human Nutrition

(Continued from page 34)

and highlight the importance of the nutritionally superior feeds.

Human nutrition programs would also be much more effective if we had more knowledge as to "why people eat what they eat." Many aren't well nourished because of what we term "bad food habits", but simply telling people that their habits are bad isn't a very effective way of getting them to eat what we think they should. What is the basis of food habits and how can they be modified in the interests of better nutrition? Fundamental sociological and nutritional studies are here called for. The approach to this problem of food preferences shouldn't be one-sided, however. From the standpoint of food production and processing, we are interested to know how we might modify products, as offered to the consumer, in such a way as to give them greater acceptability as well as the expected nutritive value. Such studies should be of value to the livestock industry, as marketing research.

We have come to realize that overeating, which is reflected in marked overweight, is a harmful nutritional practice, particularly in middle life and later. Diabetes, hypertension, arteriosclerosis and other circulatory troubles are much more frequent and severe as a result. Active life and total life are shortened. Thus, today we are stressing that a large proportion of our older people should eat less in the interests of better health. But less of what?

We know that overweight can be corrected by eating fewer calories and that this is of primary importance, but is it the whole story? Are certain sources of calories more important than others? What about specific nutrients as well? There is evidence that the intakes of some of them, such as calcium, should be increased rather than diminished in old age, but our knowledge here is very limited. Is an efficient combination of amino acids, which is best provided by liberal intakes of animal protein, of special significance in old age? The answers to all of these questions will have an important bearing on the market for the products of agriculture as well as on human health. It is a reasonable assumption that as total needs for food drop with age, its nutritional quality becomes of greater importance accordingly. We need much more information as to what we mean by this quality.

The degenerative diseases particularly need attention with respect to specific dietary factors that may be concerned. We do know that special diets are called for in the treatment of some of them. Some progress has been made in identifying nutrients, or products of their metabolism, which may delay the onset as well as decrease the severity of these diseases. This is an area in which quick results cannot be expected but the importance of the problems at issue clearly justifies a large and basic research program. While the primary reason why degenerative diseases are on the increase would seem to be that more people are reaching the age when they occur most frequently, possible dietary influences certainly deserve study.

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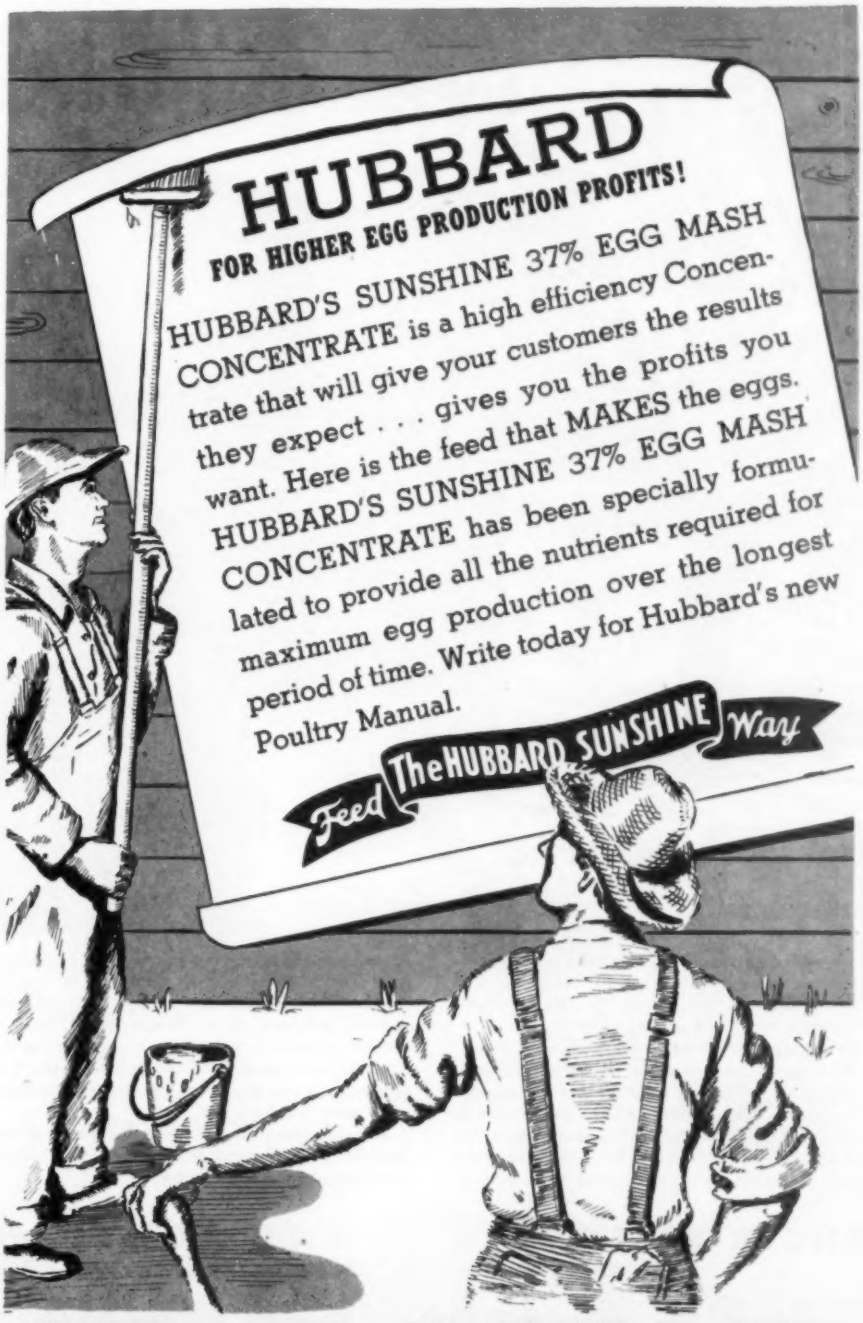
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both animals and man, have been learned through studies with the young and growing. It has now become recognized that the aging body presents different problems and calls for a modified diet accordingly. More than one fifth of our population is over 45 years of age and the proportion is increasing. The special problems of this group are becoming quantitatively more important accordingly. There are reasons why the question as to whether people should increase or decrease their consumption of animal products after middle age is a real issue. Certainly the answer is of importance to the livestock and food industries.

We cannot overlook the possibility that there are unrecognized harmful factors in our present diet which accelerate the aging process and the onset of the degenerative diseases. A possible case in point is illustrated by the present studies of arteriosclerosis. These studies are concerned with the possibility that high intakes of cholesterol, which is a constituent of animal fats, or of some complex of protein, fat and cholesterol, may cause or aggravate this disease. No clear evidence of such a relationship in man has been produced. The possibility of it, however, is causing many physicians to advise their patients to cut down on, or omit entirely, eggs, butter, milk and organ meats from their diets.

Large stakes are here at issue. Arteriosclerosis is a serious degenerative disease. The foods in question are of primary importance for an adequate diet. Particularly in terms of our food habits, good nutrition would seem impossible without them. They are also the products of the livestock and poultry industries. Getting the facts as rapidly as possible is of vital concern to agriculture, as well as to human nutrition and health. If animal products have any limitations, it is certainly in the long-term interests of producers and of other industries concerned, to know about them. They should join in supporting research to that end, not merely leave it to those who would rule out animal products without considering all the issues involved.

Human nutrition is naturally concerned with the question as to how production and processing practices may affect the nutritive value of its food supply. This question is of less importance for livestock products than for foods of plant origin, but the feed industry has obvious interests in any variation in the latter which may influence the nutritive value and efficiency of its rations. The general question as the extent to which soil fertility may affect the nutritive value of the food supply for man and animals is an important field of study at the present time.

It is a matter of serious concern, however, that without any reliable data, popular writers, and unfortunately some in responsible positions in agriculture and industry, are stressing the low or uncertain value of the present food supply. Many of the statements are contrary to well-established facts. For example, it has been stated that babies cannot build good bones, muscles or blood from milk and meat produced from feeds grown on poor soils.

The extent to which such scientifically unsound statements are believed by intelligent people not familiar with the facts is both amazing and serious. Public confidence in the nutritive value of vitally important foods is thus undermined. The livestock and feed industries should join with nutrition scientists in putting the facts before the public and in trying to restrain those who are doing both agriculture and nutrition a disservice. They should also promote research to get the actual facts. This is an area deserving of long-time investigations, in contrast to the superficial observations on which many present claims as to the direct relationships between soils and human health are based.

Another matter of increasing public concern which must receive adequate attention is the question as to the extent to which agricultural and industrial operations may introduce harmful substances into foods. The congressional hearings that are in progress or scheduled and the large number of articles that are appearing in popular and trade magazines reflect a growing realization of the importance of the issues involved. Research to get the facts where they

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are unknown is of urgent and large importance to agriculture and the feed and food industries, as well as to human health.

We are in the present situation because in the past, adequate research has not paralleled commercial developments. If the chances of possible harm from the use of DDT had been fully explored at the outset, public concern about its presence in milk and meat need not have arisen. This would seem to be a lesson for the future.

Information Needed

The need for more information as to the possible harmful effects of certain chemical additives in processed foods is now clearly recognized. It is rather startling to learn that 486 different chemicals are known to be added to foods, and that many others are proposed for use. While most of them may be considered to be harmless in the amounts used, for others this may not be the case. Whether they may have some unfavorable effect on the product to which they are added, or on body tissues and processes, has not been adequately studied. Certainly such studies are needed for the protection of the public and for the guidance of industry.

The livestock industry has an interest to see that no practices are followed which unfavorably affect the nutritive value, wholesomeness or reputation of its products and, thus, the market for them. A frank recognition that possible dangers exist and that all the facts must be obtained, so that any regulations needed will take account of the interests of all concerned, seems of obvious importance.

At present there seems little likelihood that the new developments in the use of antibiotics and hormone preparations in animal nutrition, if properly controlled, is a matter of concern in terms of the health of those eating the products from the animals thus fed. The question is bound to arise increasingly, however, and it is much better to have the facts in advance, not only to avoid any possible dangers from the development but also to combat misrepresentations which may be made to the public.

The previous discussion indicates that the present rapid developments of the chemical industry are creating new problems, as well as contributing to the advance of food production and technology and to human nutrition. Enriched bread, vitamin D milk and the addition of vitamin A to oleo have been important developments for better nutrition. More widespread fortifications are being initiated or advocated, particularly by those who have the special substances to sell. How far we should go in this direction is a very important question from the standpoint of the food producer as well as the consumer.

Should the amino acid deficiencies of bread be made up with certain amino acids prepared from milk, as has been proposed, or should more skim milk be added to bread to supply other nutrients as well? What would be the impact on human nutrition and on the market for animal products which are nutritionally superior in many other ways, if in the

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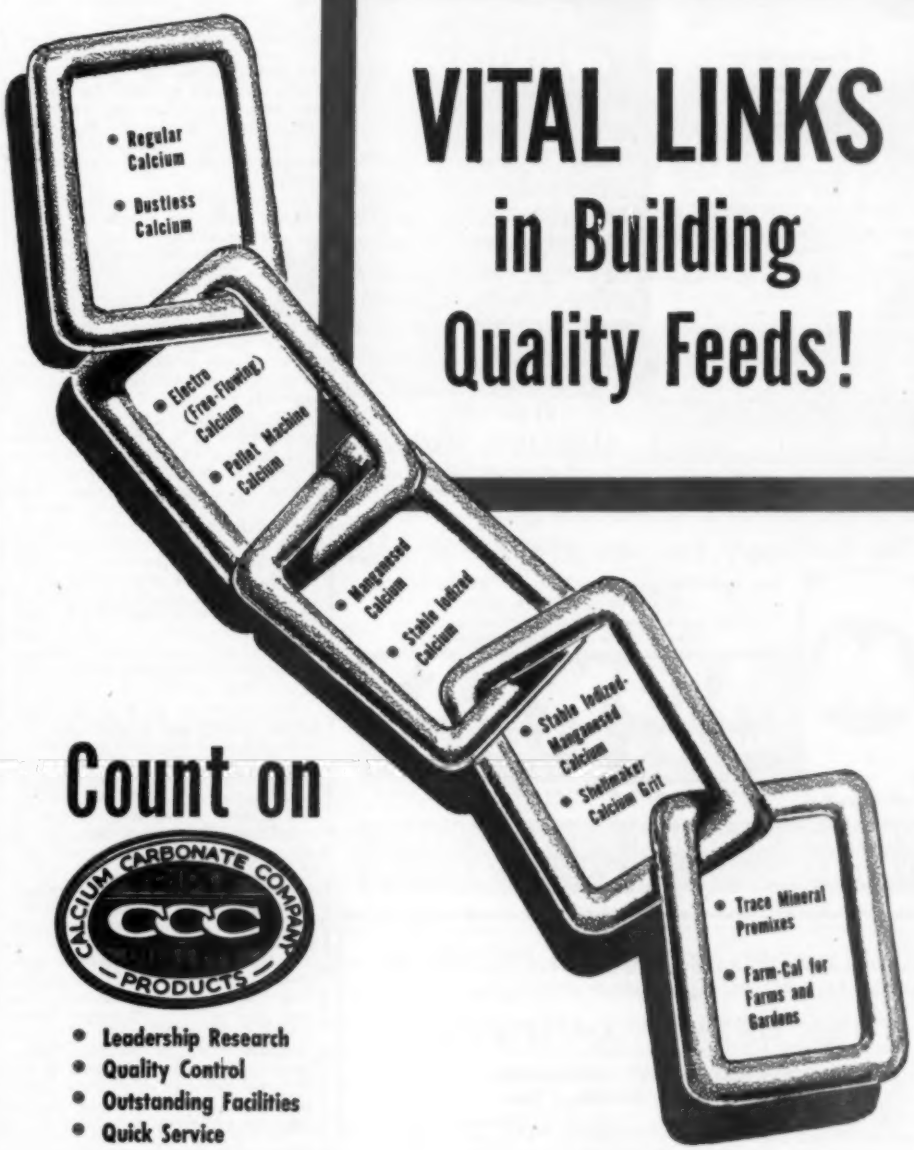

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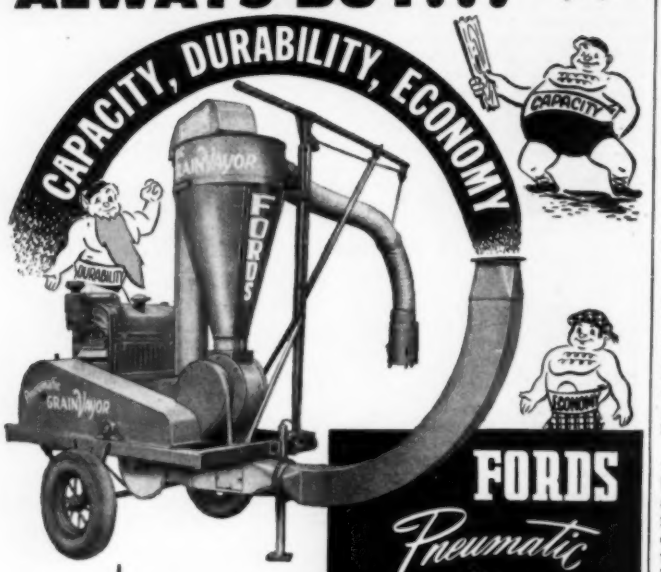

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future amino acids are marketed as concentrates or in pure forms, as vitamins are now available?

The animal industry must be prepared for increasing competition from non-agricultural products for the human stomach. These developments must be visualized and evaluated in terms of their implications for all concerned. This is another example of human nutrition problems in which the livestock and feed industries have a stake.

Clearly an important general problem in the field of human nutrition is to get sound practices into wider use. There would also be a better market for livestock products if everyone ate a good diet. To accomplish this involves far more than teaching the individual good eating habits. There must be a broader public understanding of the importance of good nutrition and sound food policies for the promotion of our national vigor and stability.

This objective can be furthered by the promotion of better relations between agriculture and consumers and of a realization that they have food problems of mutual interest and concern as well. The livestock industry, particularly, needs to improve its public relations with consumers. In these times we cannot overlook the fact that the cost of food is a real nutritional problem for many. Any economies which can be developed in the production and marketing of high-quality foods, particularly animal products, will help solve this problem.

On the other hand, we need more effective nutrition education as to the superior values of these foods for health, in order that they may have the place they deserve in the family budget. This education should also give consumers a better appreciation of the factors involved in food costs, and of the importanbe of the livestock industry in providing a superior food supply, better health, and an improved economy.

One of the obstacles to the wider consumption of a top-quality diet is food faddism. This obstacle seems to be growing, promoted by sales campaigns for proprietary products and by popular writers, despite the efforts of nutrition educators. Advertising and popular articles have led many to believe that a pill a day or a dose of some other special product makes food selection a matter of minor importance. Others, who recognize the statements made to be untrue or extravagant, have been led to put less reliance in the actual facts of nutrition accordingly.

The cause of nutrition is being harmed by this development, and millions of dollars are being spent annually for concoctions and special products of very limited value instead of for foods of recognized top quality. The problem is important enough to enlist the interest of all who are in any way concerned with food and health.

The topics discussed here illustrate the fact that the interests of human and animal nutrition merge at many points. Many of the same basic research problems are involved in both. Many of the problems with which the livestock and feed industries must deal can be more effectively solved if there is an understanding of related questions regarding the use of animal products in human nutrition. It has been the purpose of this discussion to bring out some of these mutual relations and interests.

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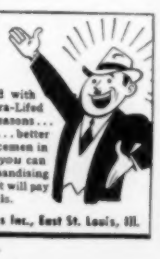

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CONVENTION CALENDAR

Nov. 19-20—Western Grain & Feed Assn.; Fort Des Moines Hotel, Des Moines, Iowa; sec., Mark G. Thornburg, 432 Des Moines Bldg., Des Moines.

Nov. 24-Dec. 1—International Livestock Exposition; International Amphitheatre, Chicago Stock Yards, Chicago, Ill.

Nov. 26-28—Second Annual Feed Milling Production School, Hotel President, Kansas City; Sponsored by Midwest Feed Manufacturers Assn., exec. vice pres., Jack D. Dean, 20 W. 9th St. Bldg., Kansas City, Mo.

Dec. 1—Feed Conference; Fort Collins, Colo.; sponsored by Colorado Grain, Milling & Feed Dealers Assn. and Colorado A & M College.

Dec. 3-5—Montana All-Industry Poultry School and Show; Montana State College, Bozeman, Mont.

Dec. 4-6—Minnesota Baby Chick Co-op. Assn.; Minneapolis, Minn.; sec., L. L. Baumgartner; Litchfield Hatchery, Litchfield, Minn.

Dec. 13-14—Feed Industry Nutrition Conference; North Carolina State College of Agriculture and Engineering of the University of North Carolina, Raleigh, N.C.

1952

Jan. 2-5—Greater New York Allied Poultry Industry and Farm Exposition; Grand Central Palace, New York City; Sec., Harvey C. Wood, P. O. Box 162, Newton, N. J.

Jan. 15-16—American Dehydrators Assn.; Hotel Soreno, St. Petersburg, Fla.; sec., Lloyd Larson, Dwight Bldg., Kansas City, Mo.

Jan. 15-16—Kansas Formula Feed Conference, Kansas State College, Manhattan; sponsored by the college, Midwest Feed Manufacturers Assn. and Kansas Grain & Feed Dealers Assn., chairman, Prof. F. W. Atkeson, dept. of dairy husbandry.

Jan. 18-19 — American Hatchery Federation, second annual "quickie" convention; Hotel Claypool, Indianapolis, Ind.

Jan. 20-22—Indiana Grain & Feed Dealers Assn., Inc., Hotel Claypool, Indianapolis, Ind.; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

Jan. 21-22—Northwest Retail Feed Assn., Inc.; Hotel Nicollet, Minneapolis; sec., W. D. Flemming, 506 Corn Exchange Bldg., Minneapolis 15.

Jan. 21-23—North Dakota Poultry Industries; Elks Club, Fargo, N.D.; mgr., Lloyd Forness; Capital Building; Bismarck, N.D.

Jan. 24-26—Poultry and Egg National Board; Sherman Hotel, Chicago, Ill.; manager, Homer I. Huntington, 308 W. Washington, Chicago 6, Ill.

Jan. 28-30—Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; exec. sec., R. F. Frazier, 16½ N. 9th St., Richmond 19, Va.

Feb. 10-12—Fact Finding Conference of the Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; for information, Institute of American Poultry Industries, 221 N. La Salle, Chicago 1.

Feb. 12—Barley Improvement Conference; Hotel Nicollet, Minneapolis, Minn.; sponsored by the Midwest Barley Improvement Assn. and Malt Research Institute; dir., John H. Parker, 828 N. Broadway, Milwaukee 2, Wis.

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Unidentified Vitamins in Turkey Nutrition

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By Dr. M. L. Scott

SEVERAL reports from this laboratory have presented evidence demonstrating that young poults grow at a relatively slow rate unless supplied with an unidentified vitamin present in casein, dried skimmilk, dried brewers' yeast, dried distillers' solubles and grass juice. In this report further evidence is presented showing the importance of this factor in poult nutrition and indicating a relationship between the response of poults to the unidentified vitamins and to antibiotics. The basal diet used for the studies presented here is shown in Table 1.

Experiment 1. For the first experiment the basal diet was fed alone and supplemented with various vitamin carriers according to the experimental plan presented in Table 2.

A duplicate lot of poults also received each treatment with the additional supplement of 5 mg. aureomycin per pound of feed. The results, also presented in Table 2, show that the antibiotic produced a consistently high rate of growth in all cases. On the other hand the addition of 5% grass juice in the absence of the antibiotic produced a rate of growth approximately equal to that produced by the antibiotic.

When the antibiotic was added to the diet containing grass juice only a slight further improvement was obtained. From the results of this experiment it appears, therefore, that the main action of the antibiotic in poult nutrition is a sparing effect upon the requirement of the turkey for the unidentified vitamin present in such materials as grass juice. The most logical explanation for these results appears to be that the antibiotic causes the microorganisms in the intestinal tract of the turkey to synthesize increased amounts of the unidentified growth factor.

Experiment 2. In view of the fact that casein had previously been shown to be an excellent source of the unidentified growth factor required by poults, a second study was conduct-

Table 1—Basal Diet

Ingredients*—	Composition (%)
Corn meal	40.5
Whole wheat, ground	5.0
Oats, pulverized	5.0
Soybean oil meal, 50% protein	33.0
Fish meal, menhaden	12.5
Dicalcium phosphate	0.5
Limestone	1.0
Salt, iodized	0.5
$MnSO_4$	0.04
Fish liver oil (2,250 A, 400 D)	2.0

*Vitamins added per lb.: Riboflavin, 1 mg.; niacin, 5 mg.; choline, 225 mg.; betaine, 900 mg., and vitamin K (menadione), 1 mg.

Table 2—Growth Responses to Various Vitamin Carriers and to Aureomycin

Treatment—	Av. poult weight, 4 wks. (gm.)	Incr. over basal, 4 wks. (%)
Basal	446	..
Basal + aureomycin, 5 mg./lb.	691	55
Brewers' yeast, 5%	528	18
Brewers' yeast + aureomycin	652	47
Skim milk, 5%	532	20
Skim milk + aureomycin	681	53
Whey,* 5%	454	..
Whey* + aureomycin	658	47
Grass juice, 5%	652	46
Grass juice + aureomycin	697	56

*This sample of whey contained 73% lactose.

Table 3—Effect of Grass Juice and Aureomycin Additions to a Basal Diet Containing Casein

Treatment—	Av. poult weight, 4 wks. (gm.)	Increase over basal (%)
Basal	580	..
Grass juice, 5%	613	6
Aureomycin, 5 mg./lb.	697	20
Grass juice and aureomycin	672	16

Table 4—Whey, Delactosed Whey and Dried Distillers' Solubles as Sources of the Unidentified Growth Factor

Treatment—	Av. poult weight, 4 wks. (gm.)	Increase over basal (%)
Basal diet	425	..
Dried whey, 5%—		
(65% lactose)	542	28
(54% lactose)	575	35
(43% lactose)	651	53
Lactose, 3.25%	401	..
Dried brewers' yeast, 5%	625	47
Dried distillers' solubles—		
No. 1, 10%	649	53
No. 2, 10%	540	27
No. 3, 10%	558	31
No. 4, 10%	570	34
No. 5, 10%	571	34
Aureomycin, 5 mg./lb.	642	51

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EDITOR'S NOTE: The accompanying article is the text of an address given by Dr. M. L. Scott at the 1951 Cornell Nutrition Conference for Feed Manufacturers, held at Cornell University recently. The author is with the department of poultry husbandry at Cornell.

ed to determine the effect of grass juice and aureomycin supplements in the basal diet modified to contain casein in place of fish meal. The results of this experiment are presented in Table 3. It is evident from these results that the casein supplied significant amounts of the unidentified factor since the addition of grass juice to this basal diet produced only a slight growth response and the addition of aureomycin produced only a 20% increase in growth instead of the 45 to 55% increase observed on the unmodified basal diet.

These results may help to explain the conflicting reports concerning the magnitude of the response to be expected upon the addition of an antibiotic to a ration for turkeys. They also may explain why the growth responses to antibiotics in turkeys have, in general, been higher than those obtained with chicks. It will be noted that the growth response obtained from the antibiotic in the presence of the unidentified vitamin (i. e. when aureomycin was added to the diet containing grass juice) is in the order of 10% at four weeks of age, which is approximately the magnitude of the response obtained with chicks.

Experiment 3. In the course of several experiments on the unidentified factor requirements of turkey poults it was observed that dried whey failed to produce a growth response. Since this material contains a high level of lactose it was considered possible that the lactose in the diet was interfering with growth when this material was fed. Consequently a third experiment was conducted in which dried whey products were prepared containing different amounts of lactose.

The results of this experiment, presented in Table 4, show that, when the excessive amounts of lactose were removed, a marked growth response was obtained from the delactosed-whey product. Also in this experiment samples of distillers' solubles from five different distillers were tested as sources of the unidentified vitamin. All samples proved to contain the factor but only one sample produced maximum growth when used at a level of 10% in the ration. In this experiment the delactosed

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whey containing 43% lactose, the dried brewers' yeast, and one sample of dried distillers' solubles at the 10% level, promoted growth equivalent to that obtained with 5 mg. of aureomycin per pound of diet.

Antibiotics in Growing Rations

In order to determine whether or not antibiotics are required for optimum growth in turkeys after eight weeks of age an experiment was conducted in which approximately 50 poults of mixed sex were fed the basal ration with and without 5 mg. aureomycin per pound of feed to eight weeks of age. At this time each lot was divided in half according to weight and each half was continued on a growing ration containing 20% protein and scratch grains, with and without the addition of aureomycin at a level of 2.5 mg. per pound of mash. The results of the experiment to 24 weeks of age are presented in Table 5.

These results show that the growth advantage obtained in the presence of an antibiotic in the starting ration is soon lost if the antibiotic is not present in the growing ration. They also show that the addition of an antibiotic to the ration of poults which have not received this supplement up to eight weeks of age causes a marked increase in growth. The poults receiving the antibiotic from starting to 24 weeks of age showed greater uniformity, better feathering and a higher market quality at 24 weeks than the poults which received no antibiotic throughout this period.

The results of numerous experiments have shown that dried brewers' yeast contains an unidentified factor required for prevention of enlarged hocks in turkeys. This factor can be extracted from yeast with acidified ethyl alcohol but not by neutral or alkaline alcohol. The factor required for prevention of enlarged hocks is not the same as the factor required for growth. The results of several experiments are combined to give the data presented in Table 6.

Table 5—The Importance of Antibiotics in Turkey Growing Rations (in pounds)

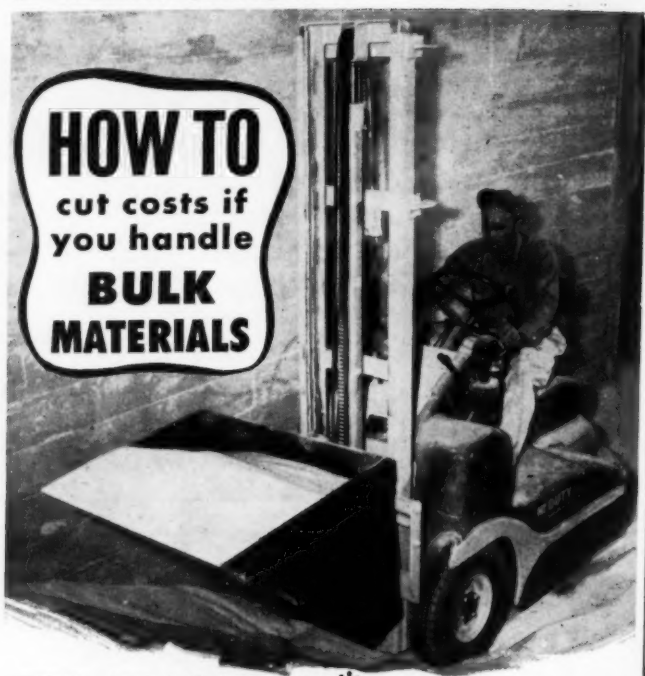
Diet fed to 8 wks.	—Basal—		—Aureomycin*	
Diet fed 8-24 wks.	Basal	Aureomycin†	Basal	Aureomycin†
Wt. at 8 wks.	3.74	3.83	4.41	4.50
Wt. at 16 wks.	9.61	11.20	10.10	11.90
Wt. at 24 wks.	17.23	17.82	17.20	18.56

*5 mg./lb. of feed.
†2.5 mg./lb. of mash with free-choice grains.

Table 6—Various Supplements as Sources of the Unidentified Factor Required for Prevention of Enlarged Hocks in Turkeys

Treatment—	No. of experiments	Average incidence enlarged hocks (%)
Basal diet	23	54.7
Dried brewers' yeast—		
2.5%	2	30.0
5.0%*	14	1.3
10.0%	3	0
Dried distillers' solubles, 10%	6	41.3
Drey whey, 5%—		
(73% lactose)	1	70.0
(65% lactose)	1	31.0
(54% lactose)	1	21.0
(43% lactose)	1	0
Lactose, 3.25%	1	100.0

*In 11 experiments with a high quality yeast, enlarged hocks were completely prevented. However, in three experiments with other brands of yeast, a low incidence was observed.



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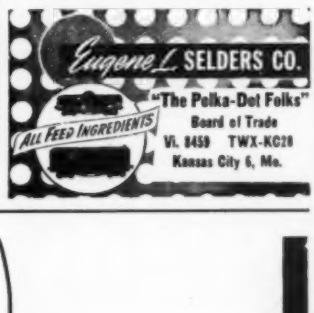

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[1]"Stabilization of Iodine in Salt and Feedstuffs" by F. F. Johnson and E. R. Frederick, SCIENCE, Oct. 4, 1940, Vol. 92, PP315-316.

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Applications for Rapid Amortization Delayed Indefinitely

WASHINGTON — Applications for certificates of necessity for rapid tax amortization on new grain storage facilities are being held up indefinitely as a result of recent changes in tax amortization procedures and establishment of priorities for processing applications.

This is pointed out in a bulletin issued recently by the Grain & Feed Dealers National Assn.

The U.S. Department of Agriculture, with 26 applications pending, and the Defense Transportation Administration, with about 40, are wondering how to proceed, especially where construction was not commenced before Nov. 1, the bulletin says.

In the latter case, the applicant must obtain from the Defense Production Administration (which issues the certificates of necessity) preliminary approval from the standpoint of steel, copper and aluminum requirements, and basic essentiality. No one can now say how this will affect subsequent approval, the G&FDNA bulletin said.

"If DPA gives the preliminary green light to the facility and construction begins," the bulletin continues, "how will such approval affect the ultimate decision on the need for the facility from other angles? In grain cases, particularly, the question being asked is whether this preliminary approval will not necessarily require a finding of space shortage that justifies the facility as eligible for a certificate of necessity.

"Then there is the question of steel and copper allotments. Will it require advance allotments tying up steel pending action on the application, where such impounded steel might be used elsewhere? USDA is waiting for clarification.

"Another disquieting factor has been uncovered which affects the large number of denials of grain storage applications. It seems most such applications come to Washington without prior clearance and approval of state PMA-CCC offices. When referred back to the state offices, the complete record in the case, with all the applicant's supporting data, arguments and evidence, is not placed before the state officials. Yet, their endorsement of the application is essential for ultimate approval. Failure to endorse the applicant's claim of a local urgent need for storage means, in almost every case, a denial of the application.

"Therefore, it would be wise in the future for each applicant to have his material fully developed and discussed with the state officers and their endorsement obtained, prior to filing in Washington. Denials, of course, can be appealed, but there are two methods of appeal, and the applicant can hardly determine which method to use until he inquires, preferably at USDA."

Meanwhile, DPA recently announced that it had approved 14 applications for accelerated amortization on grain storage facilities—12 for Peavey Elevators, Minneapolis; one for the Red River Grain Co., Gilby, N.D., and one for the Pyle Elevator Co., Glasco, Kansas.

STEADY MEAT PRICES SEEN

A University of Illinois farm economist predicts no runaway prices on meats this winter.

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ADA BOARD MEMBERS—Most of the members of the board of directors of the American Dehydrators Assn. were on hand for this picture taken last January at the Broadmoor Hotel in Colorado Springs, Colo. Back row, left to right: Earl Saul, Red River Alfalfa Co., Crookston, Minn.; Marvin Rohloff, Rohloff Bros., Inc., Graytown, Ohio; Joseph Chrisman, Cerophyl Laboratories, Inc., Kansas City; Chris A. Schmoker, Greenbelt Dehydrating Co., Vernon, Texas; Henry G. Moeller, Sioux Alfalfa Meal Co., Vermillion, S.D.; R. L. Robertson, Platte Valley Products, Inc., Lexington, Neb. Front row: L. J. Schiller, Hayward, Inc., Oak Harbor, Ohio; Jerry Fielder, Dixon (Cal.) Dryer Co.; Ralph I. Brown, Ark Valley Alfalfa Mills, Inc., Hutchinson, Kansas; Wiley Miner, Moray Processing Corp., Verdon, Neb.; J. C. Hearn, National Alfalfa Dehydrating & Milling Co., Lamar, Colo., and Loyd M. Faris, W. J. Small Co., Kansas City, Mo. Directors not present when this picture was taken were J. D. Cole, Cole Grain Co., Muskogee, Okla.; Vernon Britton, V. C. Britton & Co., Firebaugh, Cal.; R. B. Snowden, Horseshoe Milling Co., Hughes, Ark.; F. J. Higgins, F. J. Higgins Milling Co., Schuyler, Neb., and L. J. Cousino, Erie Alfalfa Mills, Inc., Erie, Mich. The next and 10th anniversary convention of the ADA will be held Jan. 15-16 in St. Petersburg, Fla. Plans for the forthcoming meeting are outlined in a special alfalfa section in this issue of Feedstuffs, following page 34.

NEW NIACINAMIDE PLANT

HARRISON, N.Y.—Additional facilities for making niacinamide, one of the B-complex vitamins, have been placed in operation here by the Nepera Chemical Co., Yonkers, N.Y. This plant, which uses the new aldehyde-collidine process, was designed by the chemical plants division of the Blaw-Knox Co., Pittsburgh. By the end of the year, when these new facilities reach capacity, the Nepera firm believes the supply of niacinamide will be sufficient to meet the demand.

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Illinois Feed Men, Veterinarians Discuss Their Mutual Problems

DON E. ROGERS
Feedstuffs Editorial Staff

PEORIA—Feed men and veterinarians discussed mutual problems at a joint meeting of the Illinois Feed Assn. and the Mississippi Valley Veterinary Medical Assn., Inc., Oct. 31 at Hotel Pere Marquette. The general tone of the speakers who addressed the 56 feed men and 134 doctors registered was that both groups must work together closely in their responsibilities to the welfare of the livestock farmers.

On hand to welcome the delegates were Dr. Don Van Houwelling, American Veterinary Medical Assn.; Dr. C. R. Collins, president, Illinois Veterinary Medical Assn.; Dr. William Munson, president, Mississippi Valley Veterinary Medical Assn., and E. P. Kraft, Kraft Feed Co., Hebron, Ill., president of the Illinois Feed Assn.

A. J. McLoughlin, sales manager, Arcady Farms Milling Co., Chicago, told the joint swine session that there is no real difference in the end results which both the feedmen and the veterinarians are striving for—bigger profits for livestock and poultry producers. To accomplish this, Mr. McLoughlin said, there is a tremendous amount of work to be done together, and selling ideas is the only way it can be done.

Five points were outlined and described by Mr. McLoughlin: (1) Good or improved breeding; (2) proper housing; (3) proper care and management; (4) proper sanitation; (5) feeding of balanced rations.

"We of the feed industry have a very great interest in helping you veterinarians educate farmers to use good hygienic measures to minimize parasite loads and prevent disease of animals," Mr. McLoughlin said. "It is also my opinion that our job is to educate our farm customers to seek veterinary advice early, when unthriftiness and disease appear, in order that conditions may be corrected as soon as possible with the least loss of vitality and life. Cooperation between the veterinary and feed groups is a sure way to bigger profits for the livestock and poultry producer."

Walter C. Berger, president, American Feed Manufacturers Assn., Chicago, told the group about the exceptional growth of the formula feed industry in recent years to its present annual volume of 32.5 to 33 million tons. This has been brought about, he said, by the aggressive research program which has developed so much information about the effectiveness of complete feeds in the economical production of poultry and livestock.

There is a strong trend toward specialization among farmers, Mr. Berger pointed out, with some devoting their main efforts to hog raising, some to dairying and others to poultry. He traced the changes in grain and concentrate production which have followed the trends in livestock population. In prewar years, grain consuming animal units in the U.S. numbered about 153 million. This rose to a peak of 193 million in 1943 and dropped back to 155 million in 1947.

The population of grain consuming animal units now is about 183 million, he said. He added that it was fortunate that the nation has a sizable carryover of feed grains from previous crop years, as the amount of grain and concentrates which will be required in the 1951-52 feeding year will exceed by about 4% the amount produced in 1951.

E. F. Dickey, vice president and director of sales and advertising, Honeggers' & Co., Fairbury and Forrest, Ill., stated that "one of our biggest problems within our industry and among the other business and professional men who work with our mutual customer is distrust among ourselves of one another and the voicing of these distrusts to our customers and clients or to the general public.

"This has been one of our greatest handicaps, and this distrust has probably taken more dollars out of the pocket of every feed man and every veterinarian in this room than any other single factor. We are all working in a common cause to improve animal agriculture in our individual areas. Remember, it is written in the Good Book that a house divided against itself cannot stand. Gentlemen, we cannot go around calling one another thieves and robbers and expect to maintain a business or professional reputation for our industry or our profession worthy of the respect, confidence and patronage of the customers and clients we hope to serve."

Dr. J. A. Hoefer, animal husbandry department, Michigan State College, lectured on "Nutrition, Management and Disease in Swine Production." The hog farmer is in the business to make money and unless he pays adequate attention to each of the factors mentioned in the above title, his chances of making a profit are greatly limited, Dr. Hoefer stated.

"Intelligent consideration of the problem of swine nutrition calls for recognition of the fact that the pig

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has a very limited digestive capacity and an enormous ability to grow," Dr. Hoefer continued. "A pig will double its birth weight in less than a week, and in six months time the properly fed pig may increase his birth weight by 100 fold. These facts should obviously dictate a ration high in energy and rich in nutrients needed for growth. The emphasis should always be on quality. And yet we frequently find many feeders insisting on feeding a high fiber ration or one rich in energy only, such as corn. In either case the results are poor.

"Many of our farm mixed rations are known to be deficient or borderline in quality of protein and B-vitamin content and, since the young pig has a high requirement for these nutrients, special attention should be given to creep or pig starter rations. Here is a very appropriate place to use such feeds as skim milk, fish meal, condensed fish solubles, B-vitamin concentrates and antibiotics. The evidence indicates that our tremendous death losses in terms of runty, unthrifty pigs could be greatly reduced by the use of a good ration during the suckling and post-weaning feeding periods. The gestation, lactation and post-weaning periods are the most critical in the lifetime of a pig. The man who can do a good job of raising his pigs up to a month or two after farrowing will have little trouble in making his hog enterprise a profitable one," Dr. Hoefer said.

Dr. Robert Zinn, Allied Mills Research Farm, Libertyville, Ill., presented an illustrated lecture on swine management practices. He described the proper management and feeding practices necessary for reducing death losses and bringing pigs to market weight quickly. The veterinarians were told by Dr. Zinn that if the hog farmer will follow "Formula B-2-4-6-8-10-180" many of his headaches and those of the veterinarians will be avoided.

When deciphered, this formula becomes: B—be there when needed; 2—at two weeks start creep feeding; 4—at four weeks get the boar pigs castrated; 6—at six weeks get all pigs vaccinated; 8—at eight weeks wean the pigs; 10—at ten weeks get worming done if needed; 180—at 180 days (or less) proudly take the hogs to market.

Dr. Fred Dobbins, Quaker Oats Research Farm, Barrington, Ill., stated that nothing in the field of animal nutrition has attracted more attention in recent months than the use of antibiotics in swine rations and the value of antibiotics has been reasonably well established.

"In general, antibiotics are additions to feed rations rather than substitutes for the other nutrients known to be needed by swine," Dr. Dobbins said. "In other words, even though antibiotics are present in the rations, we still need high quality protein (proper balance of essential amino acids), adequate levels of vitamins and proper balance of minerals. Past findings in swine nutrition have just been supplemented rather than discarded as a result of antibiotics."

Dr. Dobbins summarized with four points necessary to meet the needs of swine: (1) Select a mixture of protein supplements to supply the essential amino acids to correct the amino acid deficiencies of the cereal grains. (2) Choose mineral supplements to supply calcium, phosphorus, salt, iodine, iron, copper, manganese and cobalt as needed to make the level of each element adequate in the ration. (3) Include adequate levels of all essential vitamins, giving particular attention to vitamin A, vitamin D, riboflavin, pantothenic acid, niacin and vitamin B_{12} because these are the vitamins that may be borderline or deficient in certain practical swine rations. (4) For maximum results include a good antibiotic in the ration at a level of 53 mg. a pound of ration from the time the pig starts to eat until he is marketed.

Dr. S. W. Terrill, College of Veterinary Medicine, University of Illinois, Urbana, spoke on deficiency diseases of swine and their symptoms. Dr. Van Houwelling summed up the lectures of the day and conducted a question period.

Dr. Munson presided as chairman of the morning session and C. W. Sievert, feed consultant, American Dry Milk Institute, Chicago, managed the afternoon program. A banquet in the evening concluded the joint meeting of the feedmen and the veterinarians.

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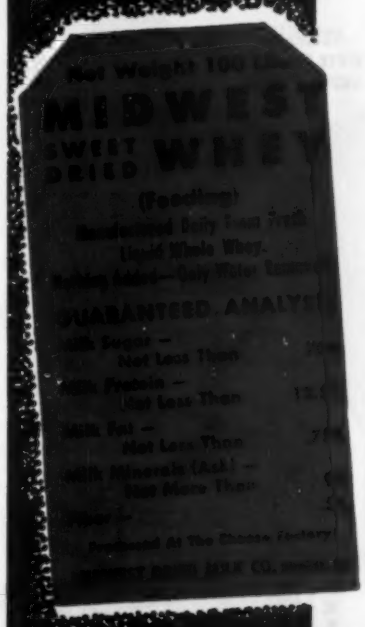

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Internal Parasites of Hogs Rank High Among "Barnyard Bandits"

PROMINENT in the rogues' gallery of "barnyard bandits" are internal parasites of hogs; they win their position among the first 10 of farmers' enemies by their numbers and by the feed they waste, according to the U.S. Department of Agriculture.

Most pigs have worms. In fact, a pig that is not infested with worms is more or less of a rarity. Many farmers are so accustomed to worm-infested pigs that they take little notice of them. They do not realize how much each wormy pig's growth is slowed down nor how much valuable feed is lost.

One experiment showed that young pigs living under constant exposure to a variety of internal parasites were gaining only .32 lb. a day; their litter mates, protected against parasites, were gaining an average of 1.17 lb. a day.

Another experiment that showed how much feed can be wasted in this way concentrated on one kind of parasite—the large intestinal roundworm, or ascarid. It showed that pigs with the most worms made the least gains. A pig that harbored 109 roundworms failed to gain—in fact, it lost weight and ultimately died. A pig that harbored 39 of these worms gained only .39 lb. a day, and one that had 12 worms gained .72 lb. The pigs that had no worms remained in good health and grew more rapidly than their infested mates, making gains up to .86 lb. a day.

Required More Feed

Pigs farrowed and raised in the Coastal Plain section of Georgia, and having moderate infestations of various worms that infest pigs in that region, took five weeks longer to reach market weight than pigs with no worms or only light infestations. The wormy pigs also required 80 lb. more feed for each 100 lb. of gain than those with no worms.

Such losses from parasites are needless. They can be prevented or controlled. The effort required is well worth the time and relatively small expense, according to USDA.

Proper sanitation is the first step. As a matter of fact, a good sanitary system may be the only step required. Treatment of pigs with worm-removing drugs, however, is a valuable "backstop" should pigs become infested.

For efficient growth nothing is better than a good sanitation system, says USDA. It protects against diseases as well as against parasites. One of the well-known ones is the McLean County System of Swine Sanitation devised by farmers in McLean County, Illinois, with the assistance of the Bureau of Animal Industry.

Checklist for More Profit

Here is a USDA checklist of things to do to make swine production more profitable:

Clean the farrowing pen thoroughly with a hot water and lye wash before the brood sow is brought in. If the pen is used more than once, repeat the cleaning between times.

Three days before the sow is due to farrow, wash her thoroughly and place her in the clean farrowing pen.

A few days to two weeks after the farrowing, give the sow and her litter a "clean trip" to clean pasture. A two-deck pen on runners, the lower for the sow and the upper for the pigs, does this job handily.

Keep pigs on uncontaminated pasture away from old feedlots until they are at least four months old.

If a veterinarian vaccinates the pigs for cholera when they are six to eight weeks old, get his opinion on whether or not worming treatment is necessary.

Watch the pigs for unthriftiness all through their growing period. If they become unthrifty and you are unable to determine the cause, call a veterinarian.

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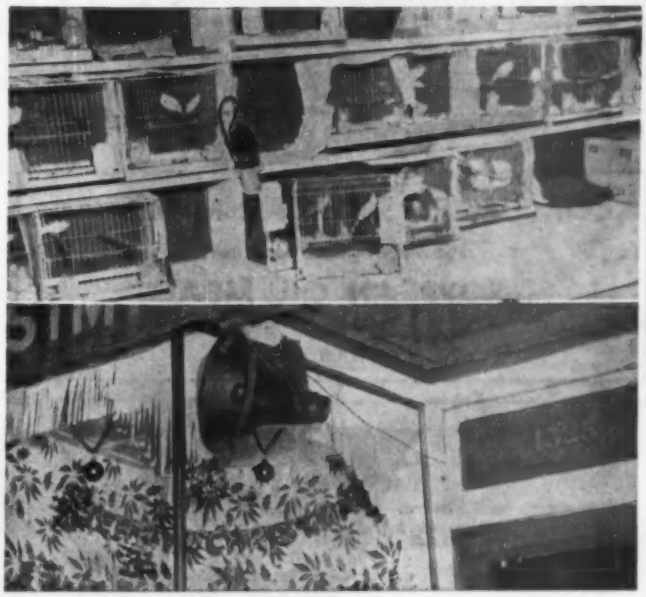
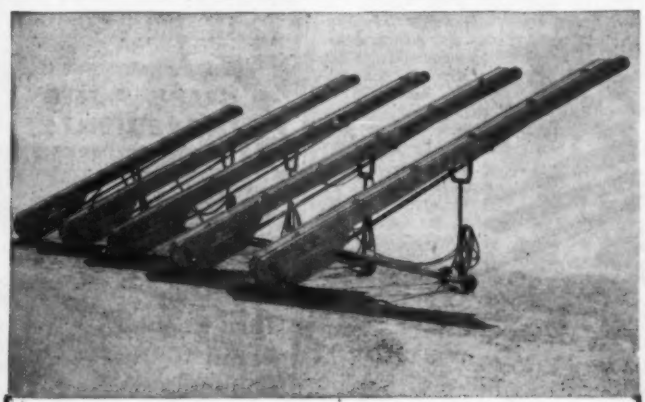


HOLIDAY SONG BIRDS—Shown above is the equipment used by a Denver retailer to attract the attention of holiday shoppers to his store. A sensitive microphone, as shown in the top picture, is placed near the singing canaries in the rear of the store. Outside, as shown in the bottom picture, a speaker is placed in the entryway which sends out the amplified singing of the birds.

HERE'S a clever Christmas merchandising idea which brought an all-time record crowd of gift-buying customers into Simpson's, Denver, Colo., during the holiday season of 1950.

In competition with many larger stores in the downtown district, owner C. R. Phipps knew he needed something "really unusual" to call attention of passers-by to the store. He experimented with various types



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MANGANESE SULPHATE

HIGH UNIT

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Available in carload or less than carlot quantities

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A preferred carbohydrate for feeding...HYDROL

(Feeding corn sugar molasses)

3 WAYS BETTER

1 Higher in total digestive nutrients,
2 Total sugars higher,
3 Does not crystallize.

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of window display, advertising, etc., until he was struck by the fact that music being broadcast over a public address system by a nearby appliance store was causing many weary shoppers to pause. This suggested that "something different to listen to" would get attention and attract customers inside.

The result was the installation of an ultra-sensitive microphone at the rear of the store, connected with a high-fidelity speaker, mounted directly over the entrance. At the microphone was placed a birdcage with three sweet-voiced canaries a few inches away. During the entire season, the birds were kept warm and well fed, with the result that each sang away merrily through the shopping day and evening.

"We got sensational results," the Denver retailer smiled. "Because of good amplification, the canary voices could easily be heard half a block away on the city's main shopping street. This created a lot of interest, and actually detoured many customers from projected walks farther down the street, as questioning shoppers proved in the store. We had as many as 200 additional customers a day over the peak of years in the past, all of whom were, of course, exposed to our complete gift lines. Most of these new people were making their first visit to the store, and we think we can count upon them to become regular customers in the future. In all cases, it was pure curiosity value which brought them in in the first place."

Mr. Phipps changed his canaries at regular intervals during the Dec. 1-30 period, to insure a variation in the bird song emanating from the store. An interesting highlight was the fact that at least 20% of the entering visitors wanted to buy the canaries!

CONSUMERS SOYBEAN MILLS, Inc.
Jobbers and Producers
SOYBEAN OIL MEAL
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SWINE FLU

Swine flu can cause serious loss to a farmer if preventive measures are not taken and if sick hogs are not treated properly, the North Dakota Extension Service points out.

Hogs Earn Average of $152 for $100 Worth of Feed

URBANA, ILL.—The average earning of 583 hog farms which kept records last year in the Farm Bureau Farm Management Service was $152 per $100 worth of feed fed to hogs, according to a summary prepared by A. G. Mueller, F. J. Reiss and J. B. Cunningham, University of Illinois farm management specialists.

They found that the 583 hog farms weaned an average of 6⅓ pigs per litter from 33 litters during the year and had a 2.2% death loss by weight after weaning. Total pork produced was 48,500 lb. from 200 hogs averaging 242 lb. when sold.

It took an average of 440 lb. total feed—395 lb. grain and 45 lb. protein and minerals—plus some hay and pasture to put on 100 lb. of gain. Feed cost per 100 lb. of gain was $12.29.

For their work, the swine raisers took in just over $9,000 gross but paid out just under $6,000 for all feed. Average price received was just under $18 cwt.

MARITIME SALES UP

BUFFALO—Dr. E. T. Singsen, head of the poultry husbandry department, University of Connecticut, and Dr. F. B. Morrison, professor emeritus, Cornell University, were featured speakers at the annual sales representatives' conference of the Maritime Milling Co. The meeting was held Oct. 30-31 in Buffalo. Bruce K. Conover, Jr., vice president and general sales manager for the company, reported that total tonnage of all feeds had shown a sharp rise for the fifth consecutive year.

GRAIN STORE FIRE

PITTSBURGH—A fire in the Thomas Hammon Grain & Building Supply Store here recently caused about $3,000 in damage.

ALL OF YOUR VITAMIN REQUIREMENTS FROM ONE SOURCE!

There's only one way to be sure that you're getting the highest quality . . . the greatest economy in your vitamin requirements! Buy them from the same source . . . E. F. DREW & Co., INC.

DREW, producers of vitamins for many years, can offer you many savings in cost with no reduction in quality, uniformity, stability, potency. And you receive the unqualified advice of the DREW Vitamin Representatives who can recommend the type of vitamins best suited . . . dry, in oil, water miscible, in emulsion.

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Years of experience as a leading producer of vitamins for feed manufacturers . . . plus rigid laboratory and biological controls . . . plus continuous checking and testing . . . guarantee the potency of Drew Vitamins!

VITAMIN A AND D FEEDING OILS
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BANARAT made with warfarin
Most Effective RAT and Mouse KILLER Known
Feature BANARAT, the pioneer warfarin rodenticide that's fully *guaranteed* to ban all rats and mice. It's sure to please your customers.

IN 2 FORMS:
New! *BANARAT BITS* ready-to-use death dealing pellets; also home size for mice.
BANARAT PREMIX a concentrate your customers mix with any preferred bait.

Localized National Advertising
Powerful, continuous advertising that's read by your customers in their favorite local publications. Merchandising helps sent free.

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Order From Your Wholesaler
There are dozens of warfarin products but only one BANARAT. Insist on it from your jobber or write *American Scientific Laboratories, Madison 1, Wisconsin.*

NO SHORTAGE OF PROFIT HERE!

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FOR ADULT BIRDS
Supplies clean, fresh water day and night. Operates from gravity or pressure systems. Up off the floor for easy cleaning. Durable brass and plastic..... $4.95 Less Stand

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Prevents droppings and dirt from getting in bowl. 70c

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Automatically provides all the water tiny chicks require. Shallow plastic bowl makes water easily accessible to smallest chicks. Made of brass and durable plastic..... $4.95 Less Stand

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Eliminates drowning in the vessel. 60c

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Easily waters large flocks. Four armed standard has three pronged foot and ground spike, 17½" for chickens, 23" for turkeys.

FOR CHICKENS stand only $12.95
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Season's Bean Crush 30% Above Previous Period

WASHINGTON—Crushings of soybeans for oil from October, 1950, through September, 1951, were nearly 30% above the previous record and totaled 252 million bushels, the U.S. Department of Agriculture reports in its quarterly soybean market summary. Exports of nearly 28 million bushels were more than double those for 1949-50.

Supplies of soybeans for 1951-52 from present indications, will amount to 275 million bushels, or the second largest of record. Farm prices of soybeans last season averaged $2.81 bu. which was 64¢ higher than the previous season.

A crop of 271 million bushels of soybeans was indicated by Oct. 1 conditions, USDA says. This would be the second highest of record, exceeded only by last year's 287 million bushels. The 1940-49 average is 179 million bushels. Frost damage to late planted beans in Minnesota, Iowa and Nebraska and drouth in Ohio and the south Atlantic states were the principal factors in the reduced yields. Near record yields were indicated in Illinois and Indiana.

Stocks of old soybeans Oct. 1 amounted to a little over 4 million bushels or about a million more than in any of the three previous years. Of the Oct. 1 stocks 2.6 million were on farms. Supplies of soybeans for 1951-52 based on Oct. 1 stocks and the October production estimates amount to 275 million bushels, compared with 290 million for 1950-51 and 234 million for 1949-50.

Discrepancies Studied

Supplies of soybeans for the 1950-51 season were estimated at 290 million bushels. However, disappearance during the season totaled 304 million bushels. Included in this disappearance were seed requirements of 18 million, exports of 28 million, record crushings of 252 million, farm use for feed of over 2 million and a carryover of 4 million bushels.

With the early maturing of the 1951 crop a somewhat larger quantity of new soybeans was crushed this September than in September 1950. The Crop Reporting Board of the Bureau of Agricultural Economics has stated that these data are being analyzed and will be considered in revising the 1950 production estimate which will be published in December.

Prices Hold Firm

Soybean prices did not drop seasonally in October, reflecting a continued urgent demand and smaller marketings. Farm prices averaged $2.62 bu. in October, compared with $2.59 in September, $2.03 in October, 1950, and $2.26 in September, 1950. Farmers placed a little less than 15 million bushels of the 1950 crop under price support which was about a million less than was placed from the 1949 crop. The average support price for the 1951 crop is $2.45 bu. for No. 2 soybeans, compared with $2.06 for the 1950 crop.

The margin between the market price of oil and meal obtained from a bushel of soybeans and the cost of soybeans averaged 31¢ last season. This compares with 24¢ for the 1949-50 season and 48¢ for 1948-49. The margin in October, 1951, averaged 49¢ as against 40¢ in October, 1950. These calculations are based on average outturns calculated from Bureau of Census reports and on the following prices: Average price of oil at central western crushing plants, bulk price of 44% protein at Decatur, and market price of No. 2 yellow soybeans at Illinois country points.

AMAZING! VITALITY NEW! BREEDERS' DOG FOOD

Nothing like it . . . the results will amaze you

Out of years of research comes the greatest discovery in dog nutrition . . . one that offers an entirely new approach in specialized feeding. Here in one food is combined the exact balance of amino acids, minerals, proteins and vitamins so necessary

to the brood matron building her litter

to the pup during the critical period of development and growth

to the racer or field trial dog needing the extra reserve of power to stay in the race longer, put on that last burst of speed and not tire quickly.

Gives your dogs a maximum amount of energy units. And here's another "plus" you get in this amazing food. It can be fed *instantly* after water is added . . . no soaking necessary. Will not get soggy or muddy. Completely new—new appearance, new method of feeding, new formula. Nothing like it ever offered by Vitality Mills. Not like any other dog food.

Recommended: for pregnant bitches to promote prenatal growth, for nursing matrons to keep in good flesh and in good milk flow, for pups to promote growth and health, for hard-running racing and field trial dogs when large amounts of energy reserve are needed, and for dogs who are in run-down condition to bring about fast recovery.

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No one else makes so complete a line enabling you to sell every type of dog owner—hunters, breeders, kennel and pet owners. No one else offers specialized diets that mean extra sales. Vitality's nationwide reputation among professional dog people means "big ticket" sales that build tonnage fast.

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Write for details on Vitality's Dog Food merchandising program. Let us show you how to sell Vitality, tons of it, as hundreds of successful feed dealers are doing throughout the country.

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Rids Chickens of Large Roundworms

(ASCARIDIA GALLI)

Black Leaf Mash-Nic, added to your ready-mixed starting, growing and laying mashes, rids chickens of roundworms without affecting egg production or growth. It contains no tobacco dust and is odorless, tasteless and shockless to chickens.

The nicotine in Black Leaf Mash-Nic is insoluble in the mouth, throat, crop and gizzard, and is not released until it reaches the intestine where it kills roundworms without disturbing the chickens.

Scientifically developed for mixing with dry mashes, Black Leaf Mash-Nic adheres to the particles of mash without separation or sifting to the bottom of feedhoppers or bags. It is uniform in texture and stabilized to retain its strength.

Black Leaf Mash-Nic is available in two forms:

POWDER, containing 5% actual nicotine, for use in mash for single-shot treatment of chickens. Packed in 100-pound drums for re-manufacturing, and in small cartons for resale.

PELLETS for use in individual treatment of chickens. Packed in small cartons for resale.

"Black Leaf"®

Inexpensive and highly effective Black Leaf Mash-Nic in your mash means extra profits for you and your customers. It is safe, sure protection against the ravages of roundworms. Start now to sell deworming mashes made with Black Leaf Mash-Nic. Write for information and prices.

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Reliable, Dependable Pesticides Since 1885

Gain in Small Turkey Output Expected to Continue in 1952

WASHINGTON — Production of small turkeys probably will continue to increase in 1952.

The record turkey crop of 52.8 million birds produced this year included 8.3 million Beltsville Small Whites, compared with 5.3 million in 1950—which represents a gain of 55%. And the growing popularity of small turkeys for year-round use suggests a further increase in their numbers, the Bureau of Agricultural Economics says in its latest Poultry and Egg Situation report.

Because they are better egg layers than the larger breeds and the availability of sufficient breeding stock is assured, a large increase in their numbers is likely to occur before any physical limitation in the availability of eggs or parent stock becomes a limiting factor, BAE officials said in surveying the turkey production outlook for 1952.

Furthermore, according to the U.S. Department of Agriculture agency, the year-round character of the supply of and demand for small turkeys means that off-season production capacities can be used for Beltsville Small Whites in a way that is not practical for the larger birds for which the principal demands occur at the holiday seasons.

1951 Developments

In reviewing 1951, BAE said the remarkable developments in the turkey industry have been the 55% increase over 1950 in the number of Beltsville Small Whites and also a 10% gain in the number of large turkeys raised and a sustained price for the increased output. To mid-October, average U.S. prices received by farmers had continued well above last year, and the prices were expected to exceed 1950 levels for holiday marketings also. (The respective 55% and 10% increases for Beltsville Whites and for other turkeys average out to the reported 16% gain for the industry as a whole.)

In considering the price effect of expanded production of small turkeys, the year-round aspect of their marketings and the fact that they are not competitive with the heavy toms which are sought by institutions and public eating places, must be considered. This means that expanded production does not necessarily mean proportionate downward pressure on prices of other turkeys, which will continue to comprise the bulk of the turkey crop and of which about 60% are typically marketed in November and December.

The number of large turkeys which will be grown in 1952 will be influenced by developments over the next four months, BAE says, but present indications do not suggest any cutback except possibly through shifting some facilities to the production of the smaller turkeys.

At mid-September, prices were considered favorable, resulting in a turkey-feed ratio of 9.1, compared with 9.2 as the average of the five previous Septembers. Over the past 20 years, profits have been adequate to induce an average annual expansion of about 6% in turkey output.

REMARKABLE NEW DISEASE GUIDE

Cuts Huge Losses in Poultry and Livestock Production

A Big Help to Mills, Dealers, Hatcheries and Salesmen

Today the poultry and livestock producers suffer losses totaling over one billion dollars every year from undetected and preventable diseases. Much of this loss is passed back and paid for by firms and sellers to farm feeders.

A new monthly Service for cutting these big losses is now available in "How to Detect and Prevent Diseases of Poultry and Livestock," offered by Simmonds & Simmonds, Inc., 201 N. Wells St., Chicago 6, Ill., who will supply full details of the Service on request.

Consisting of a series of 12 carefully prepared 64 page, profusely illustrated new Books, this Service fills an acute need. One Book is sent every month for one year at a special rate of $5 per month. A big, 12 section, indexed ring binder is given free.

You can have the binder and 1st Books sent you, without obligation, on 10 days' free trial, together with full details of the Service, simply by sending a postcard, letter or this notice to Simmonds & Simmonds, Inc., 201 N. Wells St., Chicago 6, Ill.

Highly concentrated for economy. One pound fortifies a ton of feed. Supplies properly balanced, measured amounts of stabilized iodine, manganese, copper, cobalt, nickel, iron, boron and zinc. Write for details. The Herman Nagel Co., 53 W. Jackson Blvd., Chicago 4, Ill.

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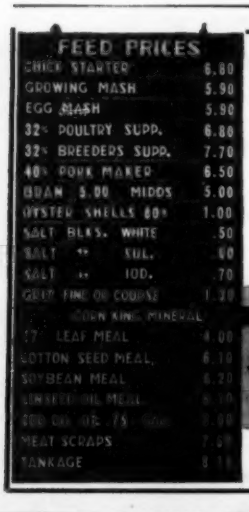

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Ralph Everett

NEW ORGANIZATION OFFERS SALES, SERVICE TRAINING

BUFFALO—Ralph Everett has announced the establishment of the Empire Farm Service Training Center, Buffalo, to serve feed merchants of the Northeast.

The training center will offer sales and service training to independent feed merchants' employees, Mr. Everett said. Employees will be equipped to serve dairymen and poultrymen with practical and workable knowledge, he explained, and they will be taught better customer relations. To acquaint New York and Pennsylvania feed dealers with the training program, a series of 12 meetings is being held throughout New York, he said.

Mr. Everett was formerly with the Ralston Purina Co. He is a 1939 graduate of the New York State College of Agriculture, Cornell University, and taught vocational agriculture at Cuba, N.Y., until 1941, when he was employed by Ralston Purina in the firm's eastern merchandising division. He served as a U.S. Navy officer from 1944-46, and then from 1946 until October this year he was Buffalo district salesman for Purina. In addition, he taught Purina's employee training program for the company's north Atlantic division for the past five years.

ELECTED MAYOR

WINNIPEG—Cecil Lamont, president of the North-West Line Elevators Assn. and manager of the Grain and Milling Advertising Service, was recently elected mayor of the town of Tuxedo, a suburb of Winnipeg. Mr. Lamont is also president of the Winnipeg Canadian Club.

FEED COSTS

Feed costs for a laying poultry flock are between 41% and 62% of the total cost of producing eggs.

(SINCE 1906)

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Trade Mark Reg. U. S. Pat Off., April 30, 1907, No. 62380, Oct. 3, 1916, No. 424533

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an economical source of high grade and well-balanced

TRACE MINERALS

Contains important mineral elements blended with COBALT, MANGANESE, ZINC, BORON, IRON, COPPER, STABILIZED IODINE and other trace minerals in carefully calculated proportions to supply necessary mineral nutrition.

Also Contains

LIQUID BLACKSTRAP MOLASSES

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(Source of Vitamin D_2)

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BY THE TON, TRUCKLOAD or CARLOAD

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Distributed in Southern Missouri, Arkansas, Oklahoma and Texas *by*

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QUALITY GOES IN BEFORE THE NAME GOES ON

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Port Richmond, Staten Island, N.Y.

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***Register* new sales power into your feeds now**

Feed selling is tough because feeds look alike and feed tags read too much alike. Now, while you're preparing 1952 registrations, is the time to consider what new sales features you can put into your feeds and on the tags. That's where Borden can help — plenty.

When you add a Borden fortifying blend you not only increase the nutritional power of your feeds, but also give your sales people new sales points to help them sell. For example, consider how a well-trained salesman can dramatize to a farmer the following Borden ingredients:

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Borden's Neo-phosphatin*— greatly increases vitamin A and D utilization

Betaine — helps extend protein values

Lactalbumin — milk's best protein

A Borden blend also provides other superior natural ingredients. Many of these may not now be present in your feeds, or your competitors'. They include:

Fish meal, condensed fish solubles, whey solubles, fish liver and glandular meal, dried whey, dried whey solubles, "Floramycin", Borden's vitamin B_{12} and antibiotic supplement (antibiotic added at any desired level).

Your Borden man is trained to help you with your registration problems. Call him in today.

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Have the Borden man call and help me register new sales power into my 1952 feeds.

Name.....

Address.....

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Ohio Conference

(Continued from page 15)

milk, testing 3.5%. When the roughage is reduced to 3 lb. of hay daily and the concentrate increased to about 30 lb. a day, it appears as though the balance in the cow is upset. The most visible manifestation is a decrease in the fat test of the milk or 1 or 2%. In general, good hay is the cheapest and most plentiful dairy feed available to the dairy farmer, and cows do their best on it. It should be used liberally," Dr. Tyznik said.

Dr. N. N. Allen, professor of dairy science, University of Wisconsin, explained how the dairy feeding program should be fitted to the roughage supply. This year in Wisconsin, Dr. Allen said, the supply of roughage is very large, but of poor quality, due to continuous rains at haying time. To make up for the lower quality, more of it should be put before the cows so that they can pick it over and leave the coarser stems or moldy parts. The concentrate mix may need to have a little more protein if the hay quality is poor.

Dr. A. R. Winter, department of poultry science, Ohio State University, spoke on "Feeding the Laying and Breeding Flock for Maximum Results." "Poultry feed sales in Ohio are large, but not as great as we would like to see," he said. "As long as this state continues to produce less poultry, meat and eggs than it consumes, there is room for expansion of the poultry industry."

The widespread use of antibiotics and vitamin B_{12} in practical rations has made it possible to successfully raise poultry and swine on an all-plant diet, said Dr. O. G. Bentley, department of animal science, Ohio Agricultural Experiment Station, in discussing some factors that influence the response to vitamin B_{12} and antibiotics. But this significant milestone in nutrition has not changed the basic concept of nutrition. An adequate ration must provide protein that is made up of the proper amino acids, and there must be an adequate supply of carbohydrates and fats to supply energy as well as the essential vitamins.

J. R. Redditt, Cudahy Packing Co., Omaha, predicted that if the present rate of increase continues, broiler production will reach one billion annually by 1953. Earlier it was thought that it would be 1960 before such a figure was reached. So great is the demand for fresh, tender, fast-grown fryers that they rapidly are replacing many of the other classes of market poultry, Mr. Redditt stated.

One of the remarkable things about the booming broiler business is the stimulating influence it has had upon other related industries, he said. In the case of feed manufacturers, the broiler business gives them stabilized all-year production and they, in return, have given the greatly improved feeds which insured faster growth at lower costs, Mr. Redditt said. Antibiotics, automatic feeders and waterers, central heating, bulk feeds, built-up litter, the "Chicken of Tomorrow" contests, cross-breeding and improvement in production efficiency, market quality, poultry processing, advertising and merchandising, all owe much of their origin and progress to the commercial broiler business.

"And we of the poultry industry are equally dependent upon these other essential industries," Mr. Redditt said. "We are proud of this cooperative relationship and hope to merit its continuation."

Dr. T. S. Sutton, department of animal science, Ohio State University, closed the conference with a discussion on trends in feeding practice. "Over the years, poultry and livestock feeding practices have changed at an ever-increasing tempo," he said. "Many factors have contributed to these changes and to the rapidity with which they occur, but above all is a better informed, more progressive and competitive feeder. The rapidity with which modern research findings progress from the experimental to practical is well illustrated by the antibiotics. What used to be years from the test tube to the boxcar has been reduced to months or even weeks. A well informed, strongly competitive feed industry has materially speeded the process."

(The texts of many of the reports given at the Ohio conference will appear in future issues of Feedstuffs.)

ELEVATOR FIRE

HOISINGTON, KANSAS — Fire caused several thousands of dollars worth of damage to the Barrett Grain Co. elevator here recently. The blaze is believed to have been caused when the elevator leg became choked with grain. Fire departments from other towns helped the local department fight flames from tops of adjacent boxcars. The ironclad elevator was a frame structure. Water caused much damage to stored wheat. James Barrett is owner of the elevator.

FOR BETTER FEED SALES TRY THE—

TWIN-TOWL BAG

It's New and Different. One side is a beautiful standard size 40x20-inch Turkish towel of the same quality terry cloth found in leading stores and made by one of the major towel manufacturers. This is sewn together with a handsome tea towel made of 40-inch—3.75 yd. unbleached sheeting. Has proved itself as a feed sales builder in test area. See a sample. Write, wire or call Norclay 4635.

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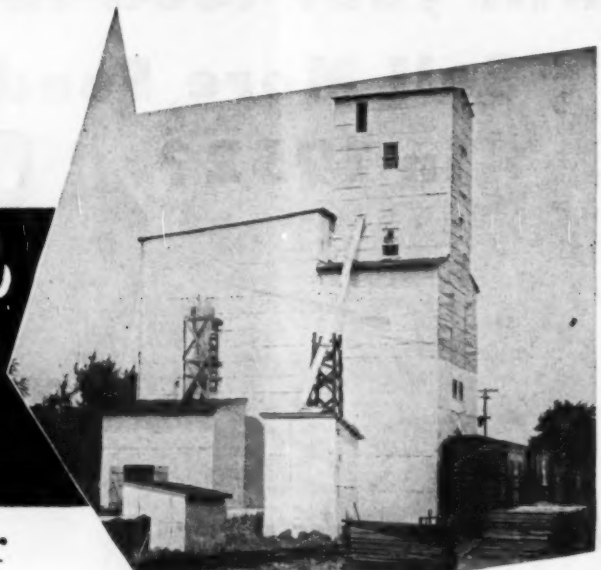

This Proof of Sales Performance means profits for you

A quarter of a century of sales by one of the Midwest's largest dealers is certainly proof of Blue Ribbon's performance and acceptance. Help yourself and your customers to greater profits. Sell Blue Ribbon Special. 3 types available: Fortified Pig Buttermilk with vitamins D&G, Fortified Chick Buttermilk with vitamins D&G, and Blue Ribbon Special for general feeding.

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"There's no selling problem when it comes to BLUE RIBBON SPECIAL. Our customers who, for the most part, raise pigs, know the nutritional and medicinal value of BLUE RIBBON. It has always been a steady and profitable seller."

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"Since this is a pig-raising center, the prevention of swine diseases is of high importance . . . and BLUE RIBBON is a big help. We recommend it to our customers, especially in the case of necrotic enteritis, because of its high lactic acid content."

Blue Ribbon Special

for pigs, poultry, turkeys, ducks

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manufacturer of BLUE RIBBON SPECIAL and CONDENSED WHEY

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BOWMAN TO HANDLE NEW SQUIBB FEED SUPPLEMENT

NEW YORK—With the appointment of Charles Bowman, New York, to handle the marketing of Afsillin, E. R. Squibb & Sons has returned to the animal and poultry nutrition field. The new product, available throughout the country through Bowman Feed Products, Inc., is a procaine penicillin especially prepared for use as an antibiotic feed supplement.

Charles Bowman

It is said that extensive feeding tests in an independent clinical laboratory showed Afsillin to have a protein sparing effect and to promote growth rate increases in chickens on an equal food consumption. It is also said that tests conducted at the Iowa State Agricultural Experiment Station indicated that protein penicillin increased the growth rate of pigs as much as 15% as compared with other feeding methods.

It is also said that not only do pigs fed Afsillin show greater weight gains on less feed, but that they are able to be marketed approximately two months earlier than usual. It is also stated that there is no carry-over effects from the antibiotics and that they should be fed in swine rations during the entire growing-fattening period for maximum growth response.

ELTON KILE APPOINTED

KILEVILLE, OHIO—Elton Kile of Fred Kile & Son, Inc., treasurer of the Ohio Grain, Mill & Feed Dealers Assn., has been appointed to the Small Business Commission of Ohio by Roscoe Walcutt, chairman of the Ohio Program Commission.

DR. E. W. REID HONORED

NEW YORK—The American Section of the Society of Chemical Industry recently awarded its 1951 chemical industry medal to Dr. Ernest W. Reid, president of Corn Products Refining Co. The medal is awarded annually for "conspicuous service to applied chemistry."

TIDEWATER FOOD, FEED DEALERS HOLD MEETING

NORFOLK, VA.—W. G. Brothers, president of the Suffolk Feed & Grain Co., Inc., Suffolk, Va., was reelected president of the Tidewater Wholesale Food and Feed Dealers Assn. recently at the annual business session of the organization at Child's Restaurant here.

Other officers named were Clyde F. Hill, Jr., Norfolk, first vice president; T. A. Willett, Jr., Portsmouth, second vice president; L. J. Smithwick, Norfolk, executive secretary-treasurer; Mrs. Ellen M. Smithwick, Norfolk, assistant secretary, and Herman A. Sacks, Norfolk, attorney.

Elected to the board of directors were C. L. Davis, J. W. Wood, J. Galandies, Isaac Saunders, R. M. Hoffman, J. H. Bisese, F. D. Barrow, J. W. Field, M. J. Moody, Clyde F. Hill, W. K. Neville, W. L. Fentress, E. R. Ball, F. E. Munden, Ben Kadis, J. L. Kantor, Henry Rubin and J. Clyde Malbon, all of Norfolk; T. A. Willett and Paul C. Stokeley, Portsmouth; W. G. Brothers and M. A. Cross, Suffolk; J. W. Luter and Howard W. Gwaltney of Smithfield, and G. T. Edwards of Franklin.

H. K. HURSLEY NAMED K. C. BOARD DIRECTOR

KANSAS CITY—H. K. Hursley of the Addison-Hursley Grain Co., has been elected a director of the Kansas City Board of Trade, succeeding W. E. Bindenagel of Cargill, Inc., who recently was transferred from the Kansas City office to Minneapolis.

ELEVATOR DESTROYED

WINNIPEG — Fire of unknown origin destroyed the Canadian Consolidated Country Elevator at Dand in Southwest Manitoba, destroying about 7,500 bu. grain. Damage was estimated at $50,000. Three box cars on track beside the elevator were destroyed.

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Correctly Blend, Free from Dust.
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GOOD RESULTS

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We all know that milk is definitely beneficial in promoting reproduction, maximum growth, and feed utilization. Dry buttermilk and dry skim milk are 100% feed—no fiber, no unnecessary ash. Both contain all the nutrients of the original milk products in natural form: protein, milk sugar, minerals, riboflavin and other B-Complex vitamins—including B_{12} and unknown factors.

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ALFALFA RESEARCH PROJECT

PROJECT: Effect of Trace Minerals Upon Carotene and Vitamin A Losses in Stored Feeds

LEADERS: A. L. Moxon and A. W. Halverson

PLACE: South Dakota Agricultural Experiment Station, Brookings

EDITOR'S NOTE: The following report is one of a number of reports on American Dehydrators Assn. research projects in this issue of Feedstuffs. The Special Alfalfa Section, following page 34, contains other research reports. These begin on pages 9a and 40a.

v v

The effect of the free trace minerals, iron, copper, cobalt, and manganese, upon the stability of carotene and vitamin A in mixed diets is of practical importance to all concerned with the livestock and poultry industries. The work of many investigators has already corroborated the fact that large variations in carotene and vitamin A storage losses occur when different types of feeds or mixed diets are added to alfalfa and other vitamin A products. Much additional investigation remains before present knowledge can be integrated and thereby make possible the compounding of nutritionally adequate diets capable of maximum carotene and vitamin A retention during storage.

The preliminary work at the South Dakota Experiment Station has included study of carotene storage losses from alfalfa and carrot oil when added to mixed poultry diets. Greater losses of the carotene of alfalfa were observed with simple corn-soybean diets than with complex diets which contained oats, sorghum grain and wheat bran and middlings in addition to the corn and soybean oil meal ingredients. Free trace minerals increased carotene loss in simple corn-soybean diets containing carrot oil. Alfalfa carotene was slightly more stable than carrot oil carotene when added to complex diets and the effect of trace minerals on either alfalfa or carrot oil carotene in such diets was not significant during a short storage period.

Current work on the vitamin A phase of the study is primarily concerned with analytical techniques for vitamin A analysis in feeds containing small amounts of added fish liver oil or synthetic vitamin A preparations. Significant progress is being made in improvement of the method of analysis and it should be possible to initiate storage studies by midwinter.

(Note: Dr. A. L. Moxon formerly was at South Dakota State but now is associate chairman of the animal science department at the Ohio Agricultural Experiment Station, Wooster, and Dr. A. W Halverson of the chemistry department of the South Dakota Station is carrying on the work of the project.)

NEED MORE LAND

Heavy steers need 16% more land to produce 100 lb. gain than do calves, reports a University of Illinois farm management specialist.

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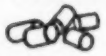

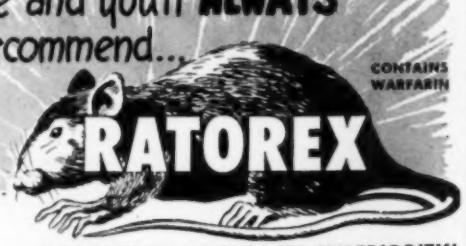

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The Mackwin Company guarantees that rats will consume Ratorex in preference to any other rat poison, that a complete kill will be effected when used as directed. If Ratorex does not perform as guaranteed, return the original container to the Mackwin Company for refund of the purchase price.

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More Legume Growth With Treated Seed, Experiments Show

WILMINGTON, DEL.—Tests conducted during the past summer on 72 farm fields in 19 states by E. I. du Pont de Nemours & Co., Inc., have indicated that more livestock feed per acre may be expected when a new chemical treatment is applied to grass and legume seed to protect it against disease organisms.

According to the firm, in 28 tests stands of alfalfa increased 33% when seed was treated with an organic sulfur compound known as "Arasan" seed disinfectant. In 11 tests the increase for alfalfa-clover mixture was 44% with treated seed.

In each case a portion of the field was planted with treated seed and the remainder was planted in the same manner with untreated seed of the same source, the company reports. Test conditions reflected variations in soil moisture, fertility and seeding methods, but "averages show a healthy increase in plant stands in favor of treated seed," according to the firm.

Top results in the tests include an Illinois field where treated alfalfa seed produced 137% more plants than untreated, a 100% increase in alfalfa from treated seed in Colorado and a 134% increase of treated over untreated alfalfa-clover mixture in Illinois.

In an earlier experiment conducted by the firm, equal quantities of treated and untreated alfalfa seed were planted in alternate rows the same day in an open field under similar growing conditions. When the seedlings were cut 40 days later, there were 325 plants from the treated seed with a weight per plant of .285 gm. and a total green weight of 92.7 gm. From untreated seed there were 136 plants with a weight per plant of .237 gm. and total green weight of 37.2 gm.

In addition to increased stands, other advantages from the use of treated seeds include larger, healthier plants and more vigorous root systems, which enable the plants to make better re-growth after mowing or grazing, according to the data gathered by the Du Pont plant pathologists.

RECORD RUN

ORD, NEB.—Despite a cold, late spring the Ord Alfalfa Mill, better known as the Saunders Mill, has completed its run for the season with a record output of some 76 carloads of dehydrated alfalfa meal sacked and shipped. This figure is nearly twice the output of the 1950 season. Gene Kovacs, manager of the Ord Mill for the Saunders Mills, closed the establishment the latter part of October and went to California where he will manage two other mills for the company during the winter season. One is at Yuma, Ariz., and the other at Calipatria, Cal. He plans to return next spring to open the mill in Ord when the first cutting of alfalfa is ready for processing.

SIGNING THE CHECK—There are plenty of fountain pens at hand for Joseph Chrisman, president of the American Dehydrators Assn., when he signs a check for a $5,000 research project at Texas A & M College. Pictured above, left to right, are Lloyd S. Larson, executive secretary of the American Dehydrators Assn.; Dr. R. D. Lewis, director of the Texas Agricultural Experiment Station, Mr. Chrisman, and Dr. J. R. Couch, professor of poultry husbandry and biochemistry and nutrition at the Texas school. The ADA payment is for a continuation of research work on the nutritional value of dehydrated alfalfa meal as a source of vitamin B_{12}, folic acid and biotin in breeder rations. (For other information on ADA research projects turn to the special alfalfa section in this issue of Feedstuffs beginning after page 34.)

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Classified advertisements accepted until Wednesday each week for the issue of the following Saturday. Changes of advertising copy in classified advertisements must be received by closing date of Saturday preceding date of issue.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $7 per column inch.

MACHINERY FOR SALE

WHIRLAWAY AIRBLAST CAR LOADERS—J. E. Hagan Mill Machinery, Jefferson City, Mo.

BEAIRD ½-TON DEHYDRATOR AND ALL equipment necessary for the dehydration of alfalfa. Don Danneman, Amber, Iowa.

USED UNION SPECIAL SEWING MAchine, 3250, Model 80500 C. Benson Feed Mills, Inc., 6136 Military Ave., Omaha, Neb.

75 H.P. HUGHES REVOLUTIONARY HAMmermill. Late model. Used less than 3 months. Jacobson Machine Works, 1090 10th Ave. S.E., Minneapolis 14, Minn.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address 8776, Feedstuffs, Minneapolis 2, Minn.

WHEN YOU ARE IN THE MARKET FOR new or used mill machinery, electric motors or any other equipment, write J. E. Hagan Mill Machinery, Jefferson City, Mo.

FOR SALE—COMPLETE DEHYDRATING plant including pelleting equipment. Plant to be moved. Owner to retain buildings. Write for information. Address 217, Feedstuffs, Minneapolis 2, Minn.

FOR SALE—FOUR STANDS 9x30 ALLIS ball-bearing "E" Drive, roll feed roller mills; one double stand 9x30 and one double 9x24 Great Western shell bearing, Style "A"; one stand 10x42 Barnard & Leas Style "A," shell bearings; one 9x24 Great Western three-high, shell bearings; two Richardson Portable Bagging Scales from 100 to 300 lb.; one 4-bu. Richardson Grain Scale; two No. 30 Richmond Centrifugal Aspirators; five Carter Disc Separators; two Vertical and Horizontal Batch Mixers; Hammermills; Attrition Mills; Bran and Flour Packers; 5 H.P. Entoleter; 30 Bucket Elevators, complete; two Richardson 100-lb. Soft Feed Scales; Drayer Feeders; electric motors; belting; shafting; pulleys; three No. 8a Gyro-Whips; 14500 Union Special Bag Closer; Emerson Dockage Tester. J. E. Hagan Mill Machinery, Jefferson City, Mo.

MACHINERY FOR SALE

FOR SALE—TWO CALIFORNIA PELLET mills. Used molasses mixers. Wenger Mixer Co., Sabetha, Kansas.

FOR SALE—32" JEFFERY COAL CONveyor, powered by a 3-phase motor. Good condition—will meet the needs of small 100-car yard. Priced at ⅓ cost of new one. Phone or write Boone Grain & Seed Co., Lebanon, Ind.

FLOUR MILL MACHINERY FOR SALE—One 2,000 hundredweight flour mill unit complete with elevators. Allis Chalmers rolls (with texrope drive), Nordyke sifters, cleaning machinery, automatic packaging machinery—all in excellent condition. Address 222, Feedstuffs, Minneapolis 2, Minn.

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FOR SALE—USED MILLS, FORD 50 H.P., Bauer 60 H.P., Gruendler 60 H.P., rebuilt Blue Streak 50 H.P. Prompt delivery. Phone, wire or write us your needs. Prater Pulverizer Co., Chicago 50, Ill.

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Standard steel elevators, belt and bucket type, available from stock. Ten Heavy Duty sizes, from 300 to 10,000 Bu./Hr., for continuous service and four Light Duty sizes, from 110 to 750 Bu/Hr., for intermittent service. We also manufacture screw conveyors and hoppers. Send your requirements for complete information.
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SALESMAN—MUST KNOW GRAIN ELEvator, feed mill, dehydrating and industrial equipment. Iowa or Nebraska territory. Good pay or commissions. Give references and qualifications. Address 155, Feedstuffs, Minneapolis 2, Minn.

ASSISTANT FEED PLANT MANAGER—Well known Minneapolis feed manufacturer has opening for man experienced in commercial feed manufacturing, buying and some nutritional or feeding background. Good starting salary with opportunity for advancement. For personal interview give age and complete past experience. All replies strictly confidential. Write 223, Feedstuffs, Minneapolis 2, Minn.

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ASSISTANT TRAFFIC MANAGER WANTED
Due to promotion within our organization, large midwestern feed manufacturer needs young, capable man. Grain products rate and transit experience necessary. Please state all pertinent information in letter, including salary desired.
Address 230, Feedstuffs
141 W. Jackson Blvd., Chicago 4, Ill.

HELP WANTED

WANTED MILL SUPERINTENDENT, EXperienced. New 100-ton per day mill. Real opportunity. County seat town in Iowa. Will pay $4,300 per year to start. Must have complete knowledge of pellet mill and general feed operation. References required. Address 159, Feedstuffs, Minneapolis 2, Minn.

WANTED MILL SUPERINTENDENT TO operate medium size midwestern feed mill that has doubled its business in the last two years. An excellent opportunity for aggressive man who is interested in his future. Give full particulars on you and your experience. Address 212, Feedstuffs, Minneapolis 2, Minn.

WANTED ANIMAL NUTRITIONIST—AN unusual opportunity for a young man, preferably under 40, with a technical background in animal nutrition, to direct activities in product development and control, with a small expanding feed manufacturing business in Minnesota. Responsibilities to include feed formulation and development of research program. Must have business sense to appreciate problems involved in feed merchandising. If you have your "feet on the ground" and are looking for security and a chance to grow with this company, write Address 213, Feedstuffs, Minneapolis 2, Minn., stating your qualifications and salary requirement.

SALESMEN — FIFTY-TWO YEAR MANUfacturer of livestock products desires a hard-hitting, high caliber, and proven salesman with initiative for local territory. One who desires a lifetime position which offers substantial earnings the year around. Our products are sold through established feed dealers. Accounts are established; products are tops in the field. Salesmen with feed experience and knowledge of livestock desired, but not essential. If you qualify following a personal interview, we offer drawing account against commission, annual bonus, group insurance, protected territory and thorough training. Late model car essential. Write giving qualifications, age, telephone number, condition of car, etc., to Box 1039, Binghamton, N. Y.

OPPORTUNITY—
FEED SALESMEN
Two feed salesmen for northern Indiana. The men selected will sell America's finest line of poultry and livestock feeds, precision-made in the country's newest and most modern mill, backed by one of the biggest names in the business. Our men know of this ad.
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WHEN YOU WANT TO BUY AN ELEvator or feed mill, see or write us your needs. We have some good ones in Ohio, Indiana, Illinois. Mid-West Business Exchange, Plymouth, Ind.

WISH TO LEASE A GRAIN ELEVATOR in Ohio with a capacity of about 10,000 to 15,000 bu., with option to purchase within a year. Address 231, Feedstuffs, Minneapolis 2, Minn.

FOR SALE—COMPLETE ALFALFA DEhydrating plant, two hammermills, trucks, chopper, tractors. Buildings and land. Has blending facilities. Located in Tennessee. Immediate possession. Address 207, Feedstuffs, Room 2272, 141 W. Jackson Blvd., Chicago 4, Ill.

FOR SALE—FLOUR MILL, 100 BBL. CORN mill, feed mill, all in perfect condition. Dwelling house, three 2-ton trucks practically new; extra lot 100x100 feet; doing $25,000 business monthly; real estate, machinery, stock and all equipment for only $60,000. Located in one of the fastest growing towns in east Tennessee. Address 192, Feedstuffs, Minneapolis 2, Minn.

FOR SALE—LOCATED IN LOS ANGELES County, California, old established retail feed business and mill, complete with mixers, cleaners, hammermill, pelleting machinery, trucks and other equipment. Equipped for bulk and sacked delivery. Storage for 10 or more cars of bulk grain and 15 or more cars of sacked grain. Approximately 33,000 sq. ft. floor space. This business, located on valuable commercial property, will be sold, together with inventoried stock of feed, at an attractive price. Owner wishes to retire. Address 210, Feedstuffs, Minneapolis 2, Minn.

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A mill in the heart of the grain producing area of South Dakota is available.
A feeding area that brings in more manufactured feeds than are made locally. A great potential for this mill under good management.
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Feed customers, coast to coast, are *demanding crimped* grains . . . *crumbled* poultry feeds! It's more than a trend . . . it's a panic! Prepare to meet this demand, NOW. Buy the new, perfected "DAVIS BUILT" ROLLER MILL. Write today for complete information to
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GENERAL SUPERINTENDENT MILL AND elevators, offers 20 years' production, maintenance, design, installation, construction, etc. Age 43. Address 98, Feedstuffs, Minneapolis 2, Minn.

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WANTED IMMEDIATELY MIXER, ONE-ton horizontal underfloor mounting. A. K. Zinn & Co., Battle Creek, Mich.

WANTED TWO SUPER DUO EXPELLERS —May consider Duo or RB for other operation. Address 1594, Feedstuffs, Minneapolis 2, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

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Two Kinds of Linseed Oil Meal Found Equally Valuable

WOOSTER, OHIO — Extracted 36% linseed oil meal and 34% expeller meal have equal value in dairy cow rations, according to two Ohio Experiment Station specialists. Milk and butterfat output is the same no matter which meal is used in the ration, they report.

A. D. Pratt and C. F. Monroe conducted two feeding trials to determine the relative feeding values of the two types of meal when used in dairy rations.

In their experiment, one group of 13 Holsteins was fed 36% extracted linseed oil meal (fat content, .8%). A second group of 13 received 34% expeller meal (fat content, 4.3%).

At the conclusion of the test, Mr. Pratt and Mr. Monroe reported that no appreciable differences were found in amounts of 4% fat-corrected milk produced, in rate of production, in health or in condition of hair coat.

The test indicated that the difference in fat content of the two meals had no influence on a cow's ability to produce milk and butterfat.

The trials were conducted over a period of 100 days. The two groups of Holsteins received identical rations, except for the linseed oil meal. During this time, the Ohio report said, "there were no significant differences in milk production or in physical condition of the cows to indicate that the solvent extraction process had decreased the feeding value of the solvent extracted linseed oil meal."

POOL ELEVATORS SHOW $4,350,701 SURPLUS

WINNIPEG — Saskatchewan Pool Elevators, Ltd., and Saskatchewan Pool Terminals, Ltd., grain handling subsidiaries of the Saskatchewan Wheat Pool organization, showed a surplus of $4,350,701 for the year ended July 31, 1951, after allowing for full depreciation on plant and equipment. This information was contained in the report of the board of directors presented to delegates at the 27th annual meeting, which opened in Regina, Sask., last week. Prior to the conclusion of the meeting this week, delegates will decide upon the distribution of the surplus.

The surplus was made possible through the handling of 145,772,861 bu. grain through country elevators and over loading platforms, and 76,950,407 bu. handled through Saskatchewan Pool Terminals. In addition, 227,575 bu. grain were delivered to the Wheat Pool mill elevator at Saskatoon, of which 181,461 bu. were wheat.

Outlook Dull for Winter Storage Fleet at Buffalo

BUFFALO—Prospects for the winter storage fleet here for the coming winter are not considered very bright by well informed grain and lake boat owners. So far there is only one ship, and that a barge loaded with grain, that will be stationed here for the winter.

The sudden onslaught of winter caught a great many ore boats at the loading docks at the head of the Great Lakes, where they are stalled waiting the thawing out of the ore before it can be loaded on to the boats. This delay at the present time will keep the majority of these boats working that trade much longer than was anticipated, eliminating any possibility of them being used as grain storage boats at this point.

Another point the boat owners bring up is that under the new set-up in taxes, they do not think that it would pay them to go into the grain storage business as the net return would be insufficient to warrant the taking on of this type of business this winter.

Another factor pointed out which will work against the possibility of a substantial storage fleet here this winter is that if the ore boats are delayed any more from this time on, it will mean that they will want to make an early spring start in the ore carrying business.

Past spring ice conditions at this end of the lakes make them a little wary of tying their boats up at this point with storage grain and have to await the uncertainty of the spring weather and ice conditions here.

Charles L. Davidson, Jr.

Gaines Brewster

STONE MOUNTAIN APPOINTMENTS—Charles L. Davidson, Sr., president of the Stone Mountain Grit Co., Lithonia, Ga., has announced the appointments of Charles L. Davidson, Jr. as general sales manager and Gaines Brewster as divisional sales manager. Mr. Davidson, Jr. for the past three years has supervised the company's advertising program and has assisted in the sales department. The Stonemo advertising program, will continue under his direction. Mr. Brewster, a former newspaperman, has worked in the company's sales promotion department. His divisional sales territory will include southern and mid-western areas. In addition, he will handle promotional work on a new product the company is introducing.

FAMILY STYLE SHOW—The three daughters and nine grandchildren of Richard K. Peek, president of the Percy Kent Bag Co., become models to display a special "Cotton 50" wardrobe. All are wearing garments made from the new 50-lb. size cotton feed bags. The children's garments shown are part of a special "Cotton 50" wardrobe designed for Percy Kent Bag Co. by Gladys Manning, well known Kansas City children's wear stylist. The grandchildren on the floor are, David E. Price, Jr., Frances Nicoll Price, Mary Parker Francis, Parker B. Francis IV (in his mother's lap), Lucy Francis Parker and Bruce Barton, Jr. In the back row are Ree Jane Parker, on the lap of Mrs. Bruce Barton, Stephen Peek Barton, Mrs. David E. Price, Mrs. Parker B. Francis III and Elizabeth Estelle Price on the hobby horse. Mr. Price and Mr. Barton are vice presidents of the Percy Kent Bag Co. The photo was taken at the home of Grandfather Peek in Kansas City.

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Most national publishing houses are reporting difficulty in delivering publications to their readers with customary speed and efficiency. Mostly, the delay can be blamed on the curtailment of postal service or production hold-ups caused by slow delivery of supplies.

Feedstuffs is working to speed each issue to you the minute it is off the press. If you receive an urgently-needed issue days later than usual, let Feedstuffs know. We will try to find the reason for the delay.

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Let your mail carrier know that you need Feedstuffs as quickly as you need your first class mail. Often he may speed up delivery for you. Check the wrapper to be sure the address is correct and legible. Notify the Feedstuffs' circulation department of a change of address as soon as possible, and allow two weeks for the change to become effective.

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FACTS

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FEEDSTUFFS

Grain Ceilings

(Continued from page 1)

they now expect that the slightly more than 100 million bushels of corn held for the CCC account in warehouses would be sold this crop year and the more than 325 million bushels of bin-stored corn would also be reduced.

This condition indicates that the carry-in of corn at the end of the present corn crop year on Oct. 1, 1952, will be under 500 million bushels.

Offsetting these reports is another statement from the same USDA sources that the corn feeding seems to be receding as the corn price advances. This report however, seems to reflect statistical opinion rather than field reports since the higher corn price has actually not had time to impress itself on feeding operations. However, USDA officials say that heavy quantities of soft corn mean a further reduced crop and certainly a crop of substantially reduced feeding value. These signs point to higher cash corn prices, government men say.

The major shortage of corn has developed in the Corn Belt west of the Mississippi River. Crop conditions east of the river have been good, with quality good and, except in Ohio, large supplies, which should be available for delivery to commercial sale at current price levels. USDA officials discount any concerted move on the part of farmers to hold corn off the market.

The storm signals flying at USDA on corn have been clearly seen at the OPS, which is perilously short of personnel to handle problems. One of the first moves price-wise on corn ceilings was the selection of James J. Mullen, corn mill manager of the General Foods Corp., Kankakee, Ill., as special consultant on corn price problems. Mr. Mullen has agreed to serve in the price agency as a part time advisor on corn price problems. Official announcement of this engagement of an industry expert will probably wait on official government clearance, meaning that he cannot be available for official duty within three weeks at the earliest.

Possible Ceiling Cited

Indications are that a corn price ceiling, if imposed, would be basically $1.96@1.98, Chicago, to reflect the minimum parity requirement. However, this ceiling price would also have to reflect merchandising mark-ups and brokerage commissions which could, if allowed by OPS, bring the Chicago market ceiling up to $2.04@2.06 bu.

This latter conclusion is speculative and should not be taken seriously into consideration of potential price ceilings for corn. The safest guess at a possible corn price ceiling is $1.96@1.98, Chicago basis.

The OPS concern over price ceilings is also held at USDA, but the farm agency believes that a recession in animal feeding will result from the higher price of corn. Early reports, probably only statistical in nature, disclose that animal feeding should be reduced on the present corn price level.

The consensus here is that feed grains will shortly reach minimum price ceiling levels. The timing of the "keno" of ceilings on corn and oats is anywhere between Feb. 1 and April 1, 1952, with most observers leaning to the latter date.

Stimulation to the grain markets was supplied last week by the sharp cut in the USDA cotton crop estimate. It was believed that a bullish sentiment in cotton would be the factor which touched off a general rise in all agricultural commodity prices. This happened to some extent, except for the subsequent fall in the cotton price as farmers sold on the upswing.

Nevertheless, the fall in the cotton crop estimate means a reduction of the availability of oilseed meal supplies which had been oversold by jobbers and others at much lower prices than those now prevailing. Vegetable protein supplies seem short of immediate domestic demand.

Outlook Similar

On top of the bullish feed grain situation is an equally bullish food grain outlook.

July-October exports of food grains as compiled by the grain export coordination service of the North American Grain Exporters Assn. disclose that 3,536,500 long tons of wheat have been lifted.

USDA officials say that the final firm November-December bread grain export authorizations will amount to 2 million tons, bringing the July-December total up to 5.9 million tons. Grain branch officials say that the November-December total represents a balance, taking into account all cancellations and reflecting new requests for wheat which more than cancel out any reductions of purchases authorized earlier.

The important influence now to see in bread grains as a factor in feed grain prices is the inability of other exporting wheat countries to make good on their export quotas. USDA officials say that importing nations signatory to the International Wheat Agreement are now concerned over the ability of the exporting nations to deliver and this means that the pressure from here on in to the end of spring will rest in the U.S. Wheat sales under the IWA may appear in a U.S. export quota from most unsuspected sources.

Chicks Placed in Principal Broiler Areas

(In thousands)

Week ending	East'n Conn.	Del-Mar-Va.	Va. Shen. Valley	N.C. Chatham-Wilkes	North Georgia	N.W. Ark.	Texas	Totals 1951	Totals 1950
Sept. 1	247	3,071	638	451	1,777	823	804	7,810	6,956
Sept. 8	191	3,116	617	486	1,730	770	744	7,624	7,056
Sept. 15	182	3,057	603	452	1,749	740	782	7,566	7,186
Sept. 22	275	3,095	566	480	1,764	816	779	7,747	7,462
Sept. 29	199	3,062	591	519	1,781	738	745	7,545	7,400
Oct. 6	139	2,958	483	499	1,942	623	704	7,368	7,021
Oct. 13	232	2,810	404	406	1,951	651	808	7,242	6,731
Oct. 20	277	2,749	451	371	1,940	684	810	7,282	6,768
Oct. 27	241	2,539	451	414	2,057	810	905	7,417	6,546
Nov. 3	264	2,690	597	430	2,122	732	861	7,676	6,493
Nov. 10	273	2,562	588	418	2,017	760	1,000	7,618	6,588

M. M. BOSWORTH CITED BY MEMPHIS EXCHANGE

MEMPHIS — An honorary life membership in the Memphis Merchants Exchange has been presented to M. M. Bosworth of Memphis in recognition of his 51 years of service to the exchange. C. P. Reid, president of Marianna Sales Co. and a former president of the exchange, presented the certificate to Mr. Bosworth in special ceremonies on the floor of the exchange.

Mr. Bosworth was associated with the Bemis Bag Co. when he joined the exchange in 1900. Later he headed Bosworth Bag Co. and is now president of Memphis Memorial Park and a vice president of Boz, Inc.

A number of the older members of the exchange were on hand for the presentation, including L. B. Lovitt, E. T. Lindsey, J. M. Trenholm and E. E. Buxton.

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THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available by mail from Feedstuffs correspondents, but are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Milwaukee: Demand good; supply scarce; western dehydrated, 17% with 100,000 A guarantee $92; suncured, 13% $68.

Kansas City: Ceiling-tightness continued in alfalfa meal; buyers were many, but supplies were limited; price levels were unchanged with 17% dehydrated alfalfa meal with 100,000 units of vitamin A guaranteed on arrival $87.50@88.30, sacked, Kansas City, depending on sellers' ceilings; other grades also at processors' ceilings; No. 1 Colorado fine ground suncured meal $63.50@65, sacked, Kansas City; No. 1 Nebraska fine ground $59@60, sacked, Omaha; No. 1 Colorado ¼ in. $60@61, sacked, Kansas City; No. 1 Nebraska ¼ in. $54, sacked, Omaha; No. 2 Nebraska ¼ in. $47, sacked, Omaha, and $48, sacked, Kansas City.

Indianapolis: Demand good; trend steady; supply ample; suncured, 13% $53.50; dehydrated, 17% $84.

Ft. Worth: Demand unsatisfied; supply tight; dehydrated, 100,000, 17%, West Coast origin $96.50, delivered TCP.

Los Angeles: Demand strong; trend upward; supply limited; 17% dehydrated $77.50, producers' plants, sacked; 15% suncured $61@62.

Minneapolis: With offerings of dehydrated meal very scarce, only nominal quotations were available this week, ranging around $91.50@92.50 for 17% with 100,000 units of vitamin A guaranteed. Suncured was a little more plentiful, with 15% quoted at $64@66 and 13% at $63@65, for No. 1 fine ground.

Omaha: Demand good; supply very limited; 17% dehydrated $84, 15% dehydrated $79; 13% suncured $64.

Chicago: Demand excellent; supply scarce; 17% with 100,000 units vitamin A guaranteed $100 ton, sacked; 20% with 150,000 A $114; 13% suncured No. 1 fine ground $65@66; 15% No. 1 suncured fine ground $68@72.

New Orleans: Demand fair; trend firm; supply ample; 17% dehydrated, vitamin A guaranteed $94@95.50, non-guaranteed $89@91, 15% $85@87, 13% $73@75.

St. Louis: Demand very good; supply extremely scarce; dehydrated, 17% $88.50, 100,000 A, St. Louis; western suncured leaf, none available and no quotations; suncured No. 1 fine ground, 13% $68.50, St. Louis.

Boston: Demand steady; supply very light; dehydrated, 17%, none offered; suncured, 13% $73.25, Colorado.

Memphis: Demand good; price near ceiling; supply very limited; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $87.50.

Cincinnati: Demand good; trend steady; supply tight; 17% dehydrated, 100,000 units vitamin A, burlap $98, paper $94.

Seattle: Demand steady; supply very tight; $70.50 ton, carlots, 15% fine grind suncured, November-December; $87.50 ton, carlots, 17% protein and 100,000 A unit dehydrated.

Portland: Demand good; trend higher; supply limited; suncured $56, f.o.b. Idaho and California; dehydrated $76, f.o.b. California.

Philadelphia: Demand slow; supply very scarce; dehydrated $100, nominal.

BARLEY FEED

Philadelphia: Demand slow; supply fair; pulverized $63.

San Francisco: Demand good; supply ample; rolled $54, ground $52.

Portland: Demand good; trend higher; supply ample; rolled $80, ground $78.

Seattle: Demand fair; supply good; whole $78, ground $78, rolled $81, all per ton, ex-warehouse, l.c.l.

Boston: Demand fair; supply light; $62.

Baltimore: Demand steady; supply fair; $62.50 ton, sacked.

Chicago: Demand steady; supply fair; $55 ton, sacked.

Milwaukee: Demand fair on pulverized, good on needles; supply ample on pulverized, light on needles; pulverized, white $60, feed $52.50; needles $1.10@1.30 bu.

Indianapolis: Demand fair; trend firm; supply ample; whole barley $77, sacked; crimped barley $82.

Ogden: Supply normal; rolled $53@62; whole barley $54@58.

New Orleans: Demand slow; trend steady to higher; supply adequate; pulverized $67.50.

BLOOD FLOUR

Louisville: Demand slow; trend steady; supply ample; $135 ton.

New Orleans: Demand dull; trend steady; supply adequate; $112.50@115, local plants.

BLOOD MEAL

San Francisco: Demand and supply fair; $7.40 a unit of ammonia; screened blood $7.15 a unit of ammonia.

Portland: Demand fair; trend higher; supply ample; $135.

Chicago: Demand good; supply adequate; $150@160 ton, sacked.

Louisville: Demand slow; trend steady; supply ample; $135 ton.

New Orleans: Demand slow; trend steady; supply adequate; $112.50@115, local plants.

Seattle: Demand slow; supply fair; $115 ton, f.o.b. local packing plants.

BONE MEAL

San Francisco: Demand good; supply fair; $67.

Louisville: Demand fair; trend steady; supply ample; $71 ton.

Minneapolis: $85 ton.

New Orleans: Demand fair; trend steady; supply adequate; $67@71, f.o.b. southern ports.

Atlanta: Demand good; trend strong; supply limited; $72, f.o.b. southern ports.

BONE MEAL (STEAMED)

Buffalo: Demand good; trend steady; supply sufficient; $73.25@$0.75, Buffalo.

Portland: Demand good; trend steady; supply limited; $88.50.

Cincinnati: Demand heavy; trend strong; supply short; $94.50@95 ton, sacked, f.o.b. Cincinnati.

Chicago: Demand good; supply adequate; $85@100 ton, sacked.

Louisville: Demand good; trend steady to stronger; supply normal; $95@97.

New Orleans: Demand good; trend steady; supply adequate; $73@75.

St. Louis: Demand good; supply limited; $100 ton, sacked.

Boston: Demand good; supply plentiful; $80@81.

Los Angeles: Demand good; trend steady; supply adequate; domestic $82.

Ft. Worth: Demand good; supply adequate; l.c.l. $4.65 fine, $5 granulated, f.o.b. Ft. Worth.

Indianapolis: Demand good; trend lower; supply limited; $4.95 cwt., ton $99.

Kansas City: Demand good; offerings fair; $100, sacked, Kansas City.

San Francisco: Demand good; supply fair; $75.

BREWERS' DRIED GRAINS

Philadelphia: Demand fair; supply scarce; no quotations.

San Francisco: Demand good; supply adequate; $54.

Chicago: Demand good; supply tight; nominally $63@66 ton, sacked.

Louisville: Demand fair; trend steady; supply ample; $63.50 ton.

New Orleans: Demand fair; trend steady; supply light; $73@74.

St. Louis: Demand very good; supply fair; $47@50, bulk; $59@60, sacked, all prices nominal.

Boston: Demand scattered; supply nil; withdrawn because of scarcity of supply.

Omaha: Demand good; supply fair; $53.70.

Cincinnati: Demand good; trend strong; none available; no quotations.

Milwaukee: Demand heavy; supply nil; $60@70, ceiling prices.

Buffalo: Demand very strong; trend upward; supply scarce; 24% $65, 26% $67, both nominal, Buffalo; 24% $75, 26% $77, both nominal, Boston.

BREWERS' DRIED YEAST

San Francisco: No offerings; no quotations.

Boston: Demand fair; supply adequate; 8¼¢ lb.

Chicago: Demand steady; supply short; 8½@9½¢ lb., in carlots; 9½@10¢ l.c.l.

St. Louis: Demand steady; supply tight; 9@9½¢ l.c.l.

Cincinnati: 9¢ lb. in carlots.

New York: 9¢ lb. in carlots.

New Orleans: 9¢ lb. in carlots.

Pittsburgh: 9¢ lb. in carlots.

Louisville: Demand fair; trend steady; supply ample; $170 ton.

St. Louis: Demand exceeds supply; supply inadequate; no quotations.

Omaha: Demand good; supply fair; 8¾¢ lb. carload lots, 9¼¢ lb. in 5-ton lots, 9¾¢ lb. in 1-ton lots, 10¾¢ less than ton lots.

Milwaukee: Demand exceeds supply; 10¢ lb., l.c.l., ceiling price.

BUTTERMILK-CONDENSED

Philadelphia: Demand dull; supply fair; $5.25.

San Francisco: Demand fair; supply good; $5.35 cwt.

Minneapolis: Market steady; demand fair; supply adequate; $5 cwt.

Chicago: Demand fair; supply ample; $4.25@4.50 cwt., in carlots.

Louisville: Demand fair; trend steady; supply ample; $5.75 cwt.

Indianapolis: Demand good; trend unchanged; supply ample; 100-lb. bag $5.85, in barrels $4.90.

Ogden: Supply average; $5.50, 100-lb. drum.

Buffalo: Demand fair to good; trend steady; supply sufficient; 6½@6¾¢.

CALCITE CRYSTALS AND FLOUR

Limecrest, N.J.: Crystals $8.50, carlots; flour $5.75.

New York: Demand steady; supply ample; crystals $11.64, flour $9.09.

Buffalo: Demand slow; supply ample to good; crystals $10.60, flour $9.25.

Toledo: Demand steady; supply ample; crystals $13.92, flour $11.17.

Boston: Demand steady; supply ample; crystals $12.87, flour $10.12.

CALCIUM CARBONATE

New Orleans: Demand good; trend steady; supply ample; $14 ton, Louisiana origin.

Portland: Demand good; supply ample; trend unchanged; $14.

Seattle: Demand steady; supply good; $13 ton, ex-warehouse, truck lots.

Los Angeles: Demand good; trend steady; supply ample; grits $10.72@12.73.

Minneapolis: Prices depend on potency of mix; KI .5 and 25-lb. $MnSO_4$ 100-lb. lots $15, plain calcium $9 ton; .5 KI $12.60.

CHARCOAL

New Orleans: Demand fair; trend steady; supply limited; 40-lb. bags oak charcoal $1.85; 50-lb. bags poultry charcoal $2.

Chicago: Demand fair; supply very limited; poultry charcoal $90 ton in 50-lb. multiwalls (ceiling).

Boston: Demand and supply light; $81, nominal.

San Francisco: Demand steady; supply ample; $59.50.

Portland: Demand good; trend steady; supply limited; $100.

Los Angeles: Demand fair; trend steady; supply ample; $60.

Kansas City: Demand and supply good; $54@60, sacked, f.o.b. plant, depending on grade and bag size.

COCONUT MEAL

San Francisco: Demand good; supply scarce; $91.50.

Portland: Demand good; trend higher; supply limited; $64, sacked, Portland.

Seattle: Demand steady; supply good; $76, Tacoma, carlots, November-December shipment—nominal price, no offerings.

Los Angeles: Demand very strong; trend extremely firm; supply scarce; spot $95@97; December $90@91, nominal.

Bayonne, N.J.: 20% protein solvent extracted meal $50.50 ton, bulk basis; sacked $1 ton, buyer's bags; $6.50 ton, seller's reconditioned bags.

COD LIVER OIL (FORTIFIED)

New York: 300 ICU, 1,500 A 30@31¢; 300 ICU, 2,250 A 33½@33¾¢; 300 ICU, 3,000 A 35½@36½¢; 600 ICU, 1,500 A 31@32¢; 600 ICU, 2,250 A 34@35¢; 600 ICU, 3,000 A 37@38¢.

Boston: Demand good; supply ample; 600 D, 2,250 A 21¢ lb.; 300 D, 2,250 A 30¢; 300 D, 1,500 A 27½¢.

COLLOIDAL PHOSPHATE

Chicago: $22, carlots.
Kansas City: $21, carlots.
St. Louis: $20.50, carlots.
Des Moines: $22, carlots.
Philadelphia: $21, carlots.

CONDENSED FISH SOLUBLES

Boston: Demand good; supply fair; tank cars 4½¢ lb.; drums 5½¢ lb.

CORN GERM MEAL

Louisville: Demand fair; trend steady; supply ample; $61 ton.

St. Louis: Demand good; supply fair; $51, bulk.

New Orleans: Demand good; trend steady; supply light; $70@72.50.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis; bulk basis $7 less)

Minneapolis: Feed $60.15, meal $86.15.
Atlanta: Feed $66.54, meal $92.54.
Birmingham: Feed $64.99, meal $90.99.
Boston: Feed $64.48, meal $90.48.
Chicago: Feed $55, meal $81.
Cleveland: Feed $61.28, meal $87.28.
Denver: Feed $62.03, meal $89.03.
Ft. Worth: Feed $61.60, meal $87.60.
Indianapolis: Feed $59.02, meal $85.02.
Kansas City: Feed $55, meal $81.
Louisville: Feed $60.46, meal $86.46.
New Orleans: Feed $63.02, meal $89.03.
New York: Feed $64.06, meal $90.06.
Norfolk: Feed $63.45, meal $89.45.
Philadelphia: Feed $63.65, meal $90.65.
Pittsburgh: Feed $61.69, meal $87.69.
St. Louis: Feed $55, meal $81.

COTTONSEED OIL MEAL

Louisville: Demand fair; trend steady; supply ample; $93 ton.

New Orleans: Demand fair; trend strong; supply tight; 41% $102@102.80.

Philadelphia: Demand slow; supply good; $83.

San Francisco: Demand good; supply scarce; $76.50.

Omaha: Demand good; supply very limited; $92.50.

Seattle: Demand fair; supply very tight; $91.50 ton, delivered rail, domestic 43%, carlots, March forward.

Atlanta: Demand good; trend strong; supply tight; 41% $82.50, f.o.b. South Carolina mills, $82, f.o.b. Georgia mills.

Cincinnati: Demand good; trend strong; supply tight; $93.50.

Chicago: Demand good; supply tight; $93.50 ton, sacked.

Boston: Demand light; supply adequate; $95.

Buffalo: Demand excellent for any spot

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offerings; trend steady; no available spot or nearby; 41% $99, nominal, Boston.

Memphis: Demand good; trend stronger; supply scarce; prime 41% protein $83.50.

Los Angeles: Demand strong; trend firm; supply limited; 43% domestic $77@78; Mexican production $79@80.

Ft. Worth: Demand unsatisfied; offerings limited; local demand at mills keeping productions cleaned up; cariots, 41%, f.o.b. cottonseed oil mills Ft. Worth, also north and central also west Texas prompt $88@90; practically nothing offered for forward shipment.

Indianapolis: Demand good; trend strong; supply light; 41% $96.

Wichita: Demand good; supply insufficient; 41% $96.

Kansas City: Continues at ceiling level for November and December shipment; $83.50@84, sacked, Memphis.

Ogden: Supply average; 41% $88@93.

D ACTIVATED ANIMAL STEROL, POWDERED

Kansas City: Demand steady; market firm; 12¢ lb.

New York: Demand good; trend unchanged; supply sufficient; 1,500 ICU pr. gm. 11@12.5¢ lb., ton lots, f.o.b. warehouse; 3,000 ICU 18@23¢.

A AND D FEEDING OIL

Seattle: Demand good; trend steady; supply sufficient; 300 D, 2,250 A 31¢; 300 D, 1,500 A 29¢; 300 D, 750 A 27¢.

Los Angeles: Demand improved; trend firm; supply adequate; 600 A, 1,500 D 26@27¢; 2,250 A, 300 D 29¢.

Buffalo: Demand strong; trend steady; supply adequate; 300 D, 3,000 A 24@25½¢, tank car, 24½@25½¢, drums; 4,500 A, tank cars 25@25½¢; all basis Staten Island, New York.

Boston: Demand and supply fair; 600 D, 1,500 A 28¢ lb.; 300 D, 2,250 A 29½¢; 300 D, 1,500 A 27¢; 300 D, 750 A 25¢.

Chicago: Demand good; supply steady; straight A feeding oil, with 10,000 units vitamin A per gram, 11@12¢ a million units of vitamin A, packed in 55 gal. drums, f.o.b. Chicago; drums included.

Minneapolis: Straight A feeding oils 13¢ per million; 55 D $1.25 gal.; 300 D, 750 A 24¢ lb.; 300 D, 1,500 A 26¢ lb.; 300 D, 2,250 A 28¢ lb.

Milwaukee: Demand fair; supply ample; 85 D, 100 A $1.35; concentrated vitamin oils, 300 D, 750 A 28½¢; 300 D, 1,500 A 31¢; 300 D, 2,250 A 33½¢.

New York: 300 ICU, 750 A 26½@27½¢; 300 ICU, 1,500 A 29@30¢; 300 ICU, 2,250 A 31½@32½¢; 300 ICU, 3,000 A 34½@35½¢; 600 ICU, 1,500 A 30@31¢; 600 ICU, 2,250 A 33@34¢; 600 ICU, 3,000 A 35½@36½¢.

DEFLUORINATED PHOSPHATE

Wales, Tenn.: $61.25.
Tupelo, Miss.: $49.25.
Coronet, Fla.: $50.
Houston: $63.75.

DISTILLERS' DRIED GRAINS

Buffalo: Demand very good; trend steady; no supplies for nearby; light $75, nominal; dark $70, nominal, both Boston.

Philadelphia: Demand fair; supply very scarce; no quotations.

Omaha: Demand excellent; supply very limited; $65.50 ton.

Boston: Demand fair; supply tight; $72, nominal.

Atlanta: Demand and trend strong; supply scarce; $81, Atlanta, nominal.

San Francisco: Demand fair; supply ample; solubles $82.

Portland: Demand fair; trend steady; supply ample; solubles $86.

New Orleans: Demand fair; trend steady; supply tight; $74@75.

Cincinnati: Demand good; trend strong; none available; no quotations.

New York: Demand heavy; trend steady; supply very limited; solubles, sacked $78.75, light grains $64.75.

Louisville: Demand good; trend steady; supply light; prices up 40¢ a ton due to OPS freight allowances; light $59.40 ton, dark $60.40, solubles $70.40.

DRIED BEET PULP

Seattle: Demand steady; supply improved; $59 ton, ex-warehouse, truck lots.

Atlanta: Demand good; trend steady; supply scarce; $81, Atlanta, nominal.

Milwaukee: Demand heavy; supply very scarce; $76.

Boston: Demand fair; supply light; $78, nominal.

Los Angeles: Demand strong; trend firm; supply very scarce; $66.10, packed in paper; $70.10 in burlap.

Ogden: Supply average; $49@52.

New Orleans: Demand good; supply fair; trend steady; imported $70, f.o.b. wharf in 100-lb. burlaps.

San Francisco: Demand good; supply fair; $62.35.

Buffalo: Demand strong; trend upward; supply scarce; Canadian, 100-lb. sacks burlap $79.50@81.50, January forward, New York, Philadelphia or Boston; U.S. 50-lb. sacks burlap $79.50@82.50, New York, Philadelphia or Boston.

DRIED BUTTERMILK

Buffalo: Demand good; trend steady; supply sufficient; 12⅜@12¾¢.

San Francisco: No offerings; no quotations.

Omaha: Demand good; trend stronger; supply low; $12.75 cwt.

Chicago: Demand fair; supply scarce; $12@13 cwt., in cariots.

Milwaukee: Demand good; supply very scarce; $13 cwt.

Minneapolis: Market stronger; demand fair; supply scarce; $11.50@12.50 cwt.

Boston: Demand fair; supply light; 11½@12¢ lb.

Ft. Worth: Demand poor; supply limited; local and nearby production $10, f.o.b. Ft. Worth.

Indianapolis: Demand slow; trend shade higher; supply average; $12.25 cwt.

Wichita: Demand good; supply insufficient; $13 cwt.

New Orleans: Demand spotty; trend steady; supply sufficient; $10.25@10.50.

Louisville: Demand fair; trend steady; supply ample; $250 ton.

DRIED CITRUS PULP

New Orleans: Demand fair; trend firm; supply scarce; $47.50@50, f.o.b. shipping points.

Los Angeles: Demand strong; trend firm; supply very scarce; $50, bulk, producers' plants, nominal.

San Francisco: Demand and supply fair; meal $57.50.

Atlanta: Demand strong; supply tight; trend steady; pulp $47.50, meal $35, f.o.b. Florida mills.

DRIED SKIM MILK

Louisville: Demand fair; trend steady; supply ample; $245 ton.

New Orleans: Demand good; trend steady; supply scarce; $13@13.50.

Chicago: Demand good; supply scarce; $13.50@14 cwt., in cariots.

Philadelphia: Demand fair; supply good; $13.

Minneapolis: Market stronger; demand good; supply scarce; $12.50@13.75 cwt.

Boston: Demand good; supply adequate; l.c.l. 12¾¢ lb.

Portland: Demand good; trend steady; supply ample; $16.

Seattle: Demand slow; supply fair; $15 cwt., ex-warehouse, l.c.l.

Buffalo: Demand very good; trend steady; supply ample; 12¾@13¼¢.

Milwaukee: Demand good; supply very scarce; $13.50 cwt.

San Francisco: Demand good; supply fair; 13¢ lb.

DRIED WHEY

Louisville: Demand good; trend steady; supply normal; $130 ton.

Philadelphia: Demand fair; supply fairly good; $7.

Chicago: Demand good; supply short; $7 cwt. in cariots.

San Francisco: Demand steady; supply good; $7.

Portland: Demand good; trend steady; supply ample; $7.25.

Seattle: Demand steady; supply ample; $7.50 cwt., ex-warehouse, l.c.l.

Buffalo: Demand good; trend steady; supply ample; 5⅝¢.

Los Angeles: Demand good; trend firm; supply adequate; $7.25 cwt.

Ft. Worth: Demand good; supply adequate; cariots $7 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots out of warehouse, Ft. Worth.

Kansas City: Demand good; offerings fair to good; $7 cwt. for fortified; l.c.l. 25¢ cwt. higher.

Ogden: Supply normal; $7.50, 100-lb. bag.

New Orleans: Demand improving; trend steady; supply adequate; $7@7.25.

Boston: Demand fair; supply light; 6½¢ lb.

Minneapolis: Market stronger; demand good; supply less plentiful; $7 cwt. in lots of 5 tons or larger, $7.25 cwt. in 1- to 5-ton lots.

FISH MEAL

Ogden: Supply average; $2.20 a unit, f.o.b. Coast; 65% $163@165.

Indianapolis: Demand more active; trend firm; supply limited; 65% $167 ton.

Ft. Worth: Demand good; supply scarce; 60% imported African origin $141.60, burlaps, f.o.b. Houston, November shipment.

Milwaukee: Demand good; supply light; 60% $175.

Los Angeles: Demand strong; trend firm; supply limited; ceiling $2.26 a unit of protein, plus mark-up and bags, equivalent approximately $2.35 a unit.

Atlanta: Demand strong; supply limited; trend strong; 60% $143, f.o.b. Atlantic ports.

Minneapolis: Scarcity of offerings continues, and prices are firm at ceiling levels. Quotations: 70% meal $2.35 a unit of protein, West Coast; imported 60% $140 ton, East Coast.

Buffalo: Demand and trend steady; supply ample; $144@145, Boston.

Chicago: Demand steady; supply scarce; 60% protein $141.80 ton, sacked, f.o.b. New England (immediate shipment only); herring meal 72% protein $2.40 a unit of protein, f.o.b. West Coast, sacked.

New Orleans: Demand good; trend firm to higher; supply adequate; 60% menhaden or angola $140.

Louisville: Demand fair; trend stronger; supply normal; $157 ton.

Boston: Demand good; supply tight; $2.26 a protein unit; $135.60@141.

Seattle: Demand fair; supply tight; herring meal $2.40 a unit protein, sacked, Seattle; salmon meal $2.40 a unit protein, sacked, Seattle, supplies exhausted.

Portland: Demand good; supply tight; trend higher; Canadian herring $2.35 a unit, f.o.b. Vancouver; California fish meal $2.31, f.o.b. California, spot fish meal $2.40.

San Francisco: Demand good; supply fair; $160.70.

HAY

Philadelphia: Demand moderate; supply fair; timothy and clover, $30.50@32.50.

Seattle: Demand heavy; supply fair; baled alfalfa $38.50, delivered truck lots western Washington common points for U.S. No. 2 green.

Buffalo: Demand good for better grades; choice to good grades in poor supply; $33@34, all Erie County points, New York state.

New Orleans: Demand slow; trend steady; supply sufficient; timothy and clover $36@38; baled alfalfa $44@46; prairie $28@30.

Louisville: Demand fair; trend steady; supply light; mixed hay, timothy and clover, No. 1 $40@45, No. 2 $38; timothy, No. 1 $35, No. 2 $33; local alfalfa, No. 1 $45, No. 2 $43; western, No. 1 $60; straw $20@22.

Boston: Demand quiet; supply plentiful; No. 2 timothy $35@37.

Los Angeles: Demand strong; trend firm; supply adequate; baled alfalfa, U.S. No. 1 $44@45; U.S. No. 2 leafy $41@43; U.S. No. 2 green $41@43; U.S. No. 3 $37.50@38.50.

Ft. Worth: Demand good; supply getting scarce for prairie, sufficient for alfalfa except No. 1; cariots, baled No. 1 alfalfa $56@58, No. 2 $52@57, Oklahoma-Texas-Arizona origin; prairie No. 2 $24@40; Johnson grass, No. 2 $33@36, delivered TCP.

Ogden: Supply normal; $1.35 bale; $26@30 ton, baled, in barn.

Wichita: Demand heavy; supply insufficient; prairie $20@25, No. 1 alfalfa $35@40.

New York: Demand good; trend firm; supply poor; timothy, No. 1 $40@42, No. 2 $32@38, No. 3 $24@28.

HOMINY FEED

Milwaukee: Demand good; supply fair; $68.50@69.

Indianapolis: Demand good; trend firm; supply light; $76 ton, delivered Indianapolis, including state tags and used bags; ground corn $76.

Buffalo: Demand good; trend steady; supply ample; yellow $75.50@77.50, white $75.50@77.50, both Boston.

Chicago: Demand good; supply fair; $67@67.50 ton, sacked.

New Orleans: Demand fair; trend steady; supply adequate; $74@75, white or yellow.

Louisville: Demand fair; trend easy; supply normal; $66@69 ton.

Boston: Demand good; supply light; $76.

Memphis: Demand fair; trend stronger; supply limited, white $63, yellow $72.50.

Cincinnati: Demand good; trend steady; supply ample; $69.20.

Seattle: Demand fair; supply ample; paper bags $74, burlap bags $78, both delivered Seattle, cariots.

LINSEED OIL MEAL

Kansas City: Market tight at ceiling with demand good; ceiling prices prevail for both November and December; $64.50@65.50, bulk, Minneapolis for 36% and $66.50, bulk, Minneapolis, for 34%.

Wichita: Demand fair; supply insufficient; 34% $90.

Boston: Demand quiet; supply nil; withdrawn because of scarcity of supply.

Louisville: Demand fair; trend stronger; supply ample; $83.50 ton.

New Orleans: Demand good; trend steady; supply light; 36% $89.75@90.

Chicago: Demand good; supply tight; 34% protein $78.50 ton, sacked; 34% $80.

Buffalo: Demand excellent; trend steady; spot offerings mostly unavailable; 32% $82.50, nominal, Buffalo.

Minneapolis: Meal remains all but unobtainable and prices are nominally around $66 for extracted meal and $65 for expeller meal, bulk, Minneapolis.

Milwaukee: Demand heavy; supply very scarce; 34 to 36% $82.50.

Ft. Worth: Demand unsatisfied; practically no offerings for shipment prior to

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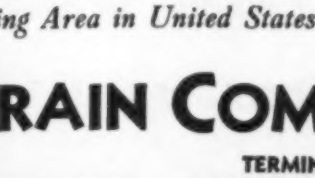

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Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Galveston, Enid, Minneapolis

February; new process $87, February shipment, delivered Ft. Worth.

Indianapolis: Demand good; trend strong to higher; supply tight; 36% $59.

Los Angeles: Demand strong; trend upward; supply limited; $53.

Cincinnati: Demand good; trend strong; none available; no quotations.

Seattle: Demand fair; supply short; $96 for 34%, delivered rail, November-December shipment; California production 30% protein $75, ex-dock.

Portland: Demand fair; trend higher; supply limited; 32% $86, ex-dock, San Francisco; 36% $77, bulk, Los Angeles.

Philadelphia: Demand good; no supply; no quotations.

San Francisco: Demand good; supply fair; $79.

MALT SPROUTS

Buffalo: Demand excellent; trend higher; supply scarce; Canadian types $70@75 for nearby, New York, Philadelphia or Boston; U.S. type $75@80, Boston, January and forward.

Chicago: Demand strong; supply light; $65@67 ton, sacked.

New Orleans: Demand fair; trend steady; supply light; $47.50@51.50, bulk.

St. Louis: Demand very good; supply fair; $51.50, bulk; $49@$53.50, sacked.

Boston: Demand and supply light; $56, nominal.

MEAT SCRAPS

San Francisco: Demand good; supply fair; $104.

Chicago: Demand good; supply adequate; 50% protein $105@115 ton, sacked; 55% $118.

Omaha: Demand good; supply limited; $116.50 ton.

Portland: Demand good; trend steady at ceiling; supply fair; $2.

New Orleans: Demand fair; trend steady; supply adequate; $95@100, local plants.

Louisville: Demand fair; trend easy; supply normal; $110@115 ton.

St. Paul: Market easier; demand limited; supply plentiful; $112.50@115 for 50 or 55% meat and bone scraps.

St. Louis: Demand good; supply fair; 50% $100@105, bulk; $106@110, sacked.

Boston: Demand and supply fair; $1.90 a protein unit; converted, 50% $107.50.

Seattle: Demand and supply fair; $105 ton, sacked, f.o.b. producer's plant, 50%.

Cincinnati: Demand good; trend steady; supply ample; 50% $103@109.50 ton, sacked, f.o.b. Cincinnati.

Los Angeles: Demand strong; trend firm; supply scarce; domestic $2.20 a unit of protein, plus bags; South American $2.20@2.25 a unit, with protein 45 to 46%.

Ft. Worth: Demand good; supply sufficient; meat and bone, 50% $103@107, sacked, f.o.b. or delivered Ft. Worth.

Buffalo: Demand very good; trend steady; supply adequate; $121@122.50.

Milwaukee: Demand fair; supply ample; 50% $105.

New York: Demand good; trend firm; supply adequate; 60% $129, 55% $115@117.

Wichita: Demand good; supply insufficient; 50% $119, f.o.b. plant; 55%, no quotations, no offerings.

Kansas City: Demand good; offerings fair to good; market steady; $115@120, sacked, Kansas City, for 50% meat and bone scraps.

MILLET

New Orleans: Demand fair; trend steady; supply adequate; Early Fortune $4.50.

St. Louis: Demand good; supply inadequate; Early Fortune, country run $3.50 cwt., bulk, nominal; Early Fortune and Yellow Proso, recleaned and sacked $4.75 cwt., St. Louis.

MILLFEED

Minneapolis: Price differences between bran and heavier offal all but disappeared this week as bran moved up about $1@1.50 ton and red dog dropped about $1. Offerings were well cleaned up at the end of the week, and some moderate strength was indicated. Quotations: bran $64@64.50, standard midds. $63@63.50, flour midds. and red dog $64@64.50.

Kansas City: Supplies of millfeed, particularly shorts, continued scarce, and demand was good. The market was strong and bran and shorts registered new highs for the fall and winter season. Quotations Nov. 15: bran $62@62.75, shorts $66.50@67.25, sacked, Kansas City.

Omaha: Demand and supply good; trend stronger; bran $62.75, shorts $65.75.

Wichita: Demand good; supply insufficient; basis Kansas City: bran $62.50@62.75, shorts $65.50@65.75; prices on bran were about unchanged, while shorts advanced $1@1.25 ton, compared with the preceding week.

Ft. Worth: Demand good; supply light; carlots, prompt, wheat bran $72@73, gray shorts $74@75, delivered TCP; $1.50 higher on bran, 50¢ up on shorts, compared with a week previous.

Chicago: Millfeeds forged ahead in Chicago this week, prodded by rising grain markets and only moderate flour mill production. Gains were 50¢@$1.50, with bran showing the way. Quotations Nov. 14: bran $67.50@68.50, standard midds. $67.50, flour midds. $68@69, red dog $70@72.

Milwaukee: Demand slow; supply ample; bran $68@69, middlings $67@68.

St. Louis: Demand absorbing all offerings; supply extremely scarce on shorts, limited on bran; bran $66.75@67, shorts $71@71.25, St. Louis switching limits.

Cincinnati: Demand good; trend strong; supply adequate; bran $73, middlings $71.

Indianapolis: Demand good; trend steady to higher on shorts; supply fair; soft winter wheat bran $73, mixed feed $71, standard midds. $73, gray shorts $76, all sacked; no red dog offered.

Louisville: Demand fair; trend stronger; supply ample; bran $72.50, mixed feed $74, middlings $76.50.

Buffalo: Demand fairly strong; trend downward; production temporarily more than local market can handle, Canadian offerings have slackened off; standard bran $65@67.50, standard midds. $64.50@66.50, flour midds. $67.50@68.75, red dog $67.50@68.75.

New York: Demand slow; trend lower; supply adequate; bran $74.50, standard midds. $72.

Boston: Demand good; supply short; bran $74, middlings $73.50.

Philadelphia: Demand moderate; supply good; bran $72.75, standard midds. $71.75, red dog $76.75.

New Orleans: Demand fair; trend slightly stronger; supply adequate; bran $72.25@73, shorts $75@76.50.

Memphis: Demand good; trend up; supply tight; wheat bran $69.50, standard midds. $71.50, gray shorts $72.50.

Seattle: Demand good; supply fair; $65, November-December, delivered common transit points.

Portland: Demand good; trend higher to ceiling; supply scarce; mill run, November $64; middlings $70.

Ogden: Supply normal; to Utah and Idaho dealers: red bran and mill run, blended, white $65, middlings $70; to Denver: red bran and mill run $73, middlings $77; to California: red bran and mill run $72.50, middlings $77.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand good; supply fair; $72.50.

Los Angeles: Demand strong; trend firm; supply adequate; standard mill run $74@75, bran $79@80; some resale bran traded $76@77.

COTTONSEED OIL MEAL FUTURES

Closing prices of cottonseed oil meal (41% protein) on the Memphis Merchants Exchange in dollars per ton (sacked):

	Nov. 9	Nov. 10	Nov. 13	Nov. 14	Nov. 15
December	....@*$2.05	....@ $2.05	$2.00@ $2.05	....@ $2.05	....@*$2.00
January	$1.50@ $1.75	$0.80@ $1.25	$1.15@ $1.75	....@ $1.60	$1.15@ $1.40
March	....@ 80.00	....@ 79.75	....@ 79.75	79.60@ 80.00	....@ 79.45
May	....@ 72.00	71.00@ 72.00	71.25@ 72.50	71.50@ 72.50	71.00@ 72.00
July	....@ 72.00	71.25@ 73.00	71.50@ 73.00	71.50@ 73.00	71.50@ 72.00
October	....@*65.00	....@*65.00	....@*65.00	....@*65.00	....@*65.00
Sales (tons)	9,700	4,300	2,700	6,600	3,700

*Bid.

SOYBEAN OIL MEAL FUTURES

Closing prices of soybean oil meal (basis Decatur, Ill.) on the Chicago Board of Trade and on the Memphis Merchants Exchange, in dollars per ton (bulk basis):

CHICAGO

	Nov. 9	Nov. 10	Nov. 13	Nov. 14	Nov. 15
November	....@*74.00	....@*74.00	....@*74.00	....@*74.00	....@*74.00
December	*73.00@*73.40	*72.50@*73.25	*73.25@*73.50	....@ 74.00	....@*74.00
January	*72.00@*72.30	*71.25@*71.75	*72.50@*72.65	*72.75@*73.00	*73.25@*73.50
March	*70.75@*71.00	*70.25@*71.00	*71.25@*71.30	*71.75@*72.00	*72.00@*72.25
May	*70.75@*71.00	*70.25@*70.75	*71.25@*71.50	*72.00@*72.25	*72.15@*72.25
July	*70.50@*71.00	*70.25@*70.75	*71.25@*71.50	....@ 72.10	*72.15@*72.25
October	*64.00@*65.50	*63.00@*64.00	*63.50@*64.00	*65.00@*66.00	*66.00@*68.00
Sales (tons)	6,400	2,700	6,800	6,500	...

*Bid. †Asked.

MEMPHIS

	Nov. 9	Nov. 10	Nov. 13	Nov. 14	Nov. 15
December	....@ 73.25	....@ 73.00	....@ 72.40	72.90@ 74.00	73.90@ 74.00
January	....@ 72.25	71.25@ 71.50	....@ 72.40	....@ 72.60	72.75@ 73.00
March	....@ 70.75	69.75@ 70.25	70.55@ 71.00	71.35@ 71.75	71.55@ 71.80
May	....@ 71.00	69.80@ 70.40	70.75@ 71.25	....@ 71.60	....@ 71.75
July	70.90@ 71.25	70.00@ 70.50	....@ 70.85	71.25@ 71.90	....@ 71.75
October	....@*63.75	....@*63.25	....@*63.50	64.00@ 66.50	....@*65.00
Sales (tons)	14,900	3,100	7,900	33,500	16,400

*Bid.

MINERAL FEED

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Omaha: Demand good; supply adequate; $75 ton, bagged.

Portland: Demand good; supply ample; trend unchanged; $40@50.

Seattle: Demand fair; supply excellent; $54, ex-warehouse for high phosphorus mixtures, l.c.l.; $36 for competitive brands, ex-warehouse, l.c.l.

St. Paul: All-purpose with iodine $90.

Ft. Worth: Demand good; supply ample; mineral supplement, 20% calcium, 4½% phosphorus $75@80; mineral blocks, 50-lb. each, 21% calcium, 6% phosphorus, 17½% salt $2.25@2.45, f.o.b. Ft. Worth.

Indianapolis: Demand steady; trend unchanged; supply ample; mineral feed with iodine $53, 5-ton lots $48, 10-ton lots $48, f.o.b. Indianapolis.

Wichita: Demand heavy; supply inadequate; all-purpose with iodine, 50-lb. blocks $90, 100-lb. bags $85, f.o.b. plant.

Milwaukee: Demand good; supply ample; $75, 50-lb. blocks $2.75.

Minneapolis: Minimum phosphorus, 7% $95, vitamin mineral for hogs $90.

MOLASSES

San Francisco: Demand good; supply fair; $48.

Portland: Demand good; trend steady; supply ample; cane $48, beet $48.

Seattle: Demand good; supply ample; $48 ton in tank cars; $16.30, 600-lb. drum.

Cincinnati: Demand fair; trend steady; supply ample; 29½@30¢ gal., f.o.b. New Orleans.

Buffalo: Demand strong; trend steady; supply ample; $57@59, tank car, Albany, N. Y.

Minneapolis: Market steady; demand fair; supply ample; 29½¢ gal., f.o.b. New Orleans; $48 ton, West Coast.

Boston: Demand steady; supply fair; 35½¢ gal. in tank car lots.

Memphis: Demand good; trend higher; supply adequate; blackstrap 29½¢ gal., tank car, f.o.b. New Orleans.

Los Angeles: Demand good; trend firm; supply ample; $48 ton, f.o.b. tank cars, Los Angeles harbor.

Ft. Worth: Demand good; supply adequate; blackstrap, prompt, 30½¢ gal., f.o.b. Houston, $60.61 ton, delivered Ft. Worth; November through March, seller's price date of shipment, f.o.b. Houston.

Indianapolis: Demand good; trend firm; supply ample; 50-gal. drum $23.38, including drum; bulk, 50-gal. $20.20, ton $69, barrels extra.

Milwaukee: Demand and supply fair; blackstrap $69@70.

New York: Demand fair; trend lower; supply sufficient; 33½@35¢.

Kansas City: Market steady, with November offered at 29¢ with no price decline guarantee; 29½¢ with price decline guarantee; 30¢ gal., New Orleans, for December, guaranteed against price decline.

New Orleans: Demand good; trend steady; supply adequate; 29½@30¢ gal. in tank cars, f.o.b. New Orleans; distribution is being seriously handicapped by shortage of tank cars.

Louisville: Demand fair; trend steady; supply normal; 29¢ gal., tank car lots, f.o.b. Gulf ports.

NIACIN

New York: $9 kilo.

OAT PRODUCTS

Louisville: Demand fair; trend stronger; supply normal; reground $33, pulverized $69, fine ground $102, rolled oats, groats and feeding oatmeal $105 ton.

New Orleans: Demand fair to good; trend steady to higher; supply adequate; feeding rolled oats $120.55, oat millfeed $63.05, pulverized white oats $80.05, feeding oatmeal $105.95.

Portland: Demand good; trend higher; supply limited; rolled $84, ground $82, cleaned $84.

Minneapolis: Higher prices for cash oats pushed prices of processed oats up this week. Demand was reported good. Quotations: feeding rolled oats $105@110, standard pulverized $66, feeding oatmeal $90, reground oat feed $30.

St. Louis: Demand fair on pulverized white oats, good on reground oat feed; supply ample on pulverized, scarce on reground; pulverized white oats $62, choice $63; reground oat feed $34.50.

Boston: Demand good; supply fair; white pulverized $68, reground oat feed $31.

Buffalo: Demand good; trend upward; supply inadequate on nearby; reground $30.50@33, Buffalo; pulverized white oats $63.50@65.50, Buffalo; pulverized mixed feed oats $65.50@67.50, Boston; mixers' pulverized white oats $72.50@74.75, Boston.

Milwaukee: Demand fair on pulverized, good on balance; supply ample on pulverized, scarce on balance; pulverized, white $65, feed $59; molasses oat feed $43; regrounds, 3% $35, 5% $38.

Indianapolis: Demand fair to good; trend

MILLFEED FUTURES

The following is a comparison of settling prices at Kansas City for Nov. 8 and 15:

Bran—	Nov. 8	Nov. 15
November	$60.55@ 61.00	*61.35@ 61.70
December	....@*58.40	....@*59.25
January	....@*57.40	....@*58.75
February	....@*57.40	*58.25@58.40
March	....@*58.00	*58.25@58.50
April	58.50@ 59.25	....@*59.00
Shorts—		
November	$62.80@ 63.50	$66.25@ 66.75
December	*60.65@60.70	*63.00@63.15
January	....@*60.50	*61.90@62.00
February	61.85@ 61.90	*62.00@62.50
March	61.00@ 61.75	....@*62.50
April	61.50@ 63.00	63.00@ 63.50
Sales (tons)	3,600	2,640

*Sales. ‡Bid.

firm to higher; supply ample; pulverized oats $65, white pulverized oats $69, crimped oats $88, steel-cut oats $110, oat groats $110, fine ground oatmeal $107, rolled oats $113, recleaned No. 2 white oats $1.12 bu., sacks extra.

Philadelphia: Demand dull to moderate; supply fair, except scarce for domestic reground; pulverized white oats $71; domestic reground oat feed no quotations; Canadian reground $45.50.

Chicago: Demand heavy; supply light; reground oat feed $31 ton, sacked; fine ground feeding rolled oatmeal $95@96; feeding rolled oats $108@109.

Memphis: Demand fair; trend stronger; supply not good; 3½% protein, reground oat feed $37.60.

OYSTER SHELL

Los Angeles: Demand steady; supply ample; eastern $23.84, packed in paper; local $13@15.

Seattle: Demand fair; supply ample, western $24, eastern $27, both ex-warehouse, l.c.l.

Portland: Demand good; trend lower; supply fair; western shell $26, granite grits $24, crystal grits $22, western shell flour $18, eastern shell $32.

San Francisco: Demand fair; supply ample; local $13, eastern $24.

New Orleans: Demand good; trend steady; supply ample; $13@13.25, Louisiana origin.

Louisville: Demand good; trend steady; supply normal; $22 ton.

Boston: Demand and supply good; paper $20.31, cloth $21.81.

PEANUT OIL MEAL

Milwaukee: Demand good; supply scarce; 26% $60, 41% $95.

Atlanta: Demand good; trend steady; supply limited; 45% solvent $82.50, f.o.b. Alabama mills.

New Orleans: Demand good; trend strong; supply scarce; 45% $78.50@80, southern mills.

Los Angeles: Demand good; trend steady; supply adequate; $105, delivered, sacked.

PEAT MOSS

Philadelphia: Demand fair; supply good; $3 bale.

San Francisco: Demand and supply fair; $3.10 bale.

Portland: Demand good; trend steady; supply ample; $3.05 bale.

Seattle: Demand slow; supply ample; $2.80 bale, ex-warehouse, either horticultural or litter.

Boston: Demand steady; supply adequate; carlots $2.75 bale, l.c.l. $2.85@2.90.

New York: Demand good; trend unchanged; supply adequate; Canadian $3.25@3.50, imported $2.70@2.90, f.o.b. port.

Chicago: Demand good; supply adequate; $3.20, 100-lb. bale.

New Orleans: Demand good; trend steady; supply adequate; 150-lb. bales German moss $3.75@4.

Los Angeles: Demand fair; trend steady; supply ample; Canadian $3.09@3.29 bale, carlots.

POTASSIUM IODIDE, U. S. P.

New York: Demand normal; trend unchanged; supply ample; 200-lb. lots $2.15, 100-lb. lots $2.17, 25-lb. lots $2.20; potassium iodide chalk mixture, 250-lb. lots $2.06, 100-lb. lots $2.08, 25-lb. lots $2.11.

St. Louis: Demand and supply good; 100% pure potassium iodide, U.S.P., 100-lb. lots $2.17 in fiber drums; 25-lb. lots $2.20 in fiber drums; 5-lb. lots $2.27 in bottles, f.o.b. St. Louis; 90% potassium iodide calcium stearate mixture, 225-lb. lots $2.06 in lever-pak drums; 100-lb. $2.08 in fiber drums; 25-lb. drums $2.11; 5-lb. bottles $2.18, f.o.b. St. Louis.

RICE BY-PRODUCTS

San Francisco: No offerings; no quotations.

New Orleans: Demand good; trend steady; supply adequate; bran $40@45, Louisiana mills.

Selected Quality — *Rich in Carbohydrates*

KING SUGAR — THE BEST MOLASSES FOR FEED MIXING — DIRECT FROM SUGAR CANE PLANTATION TO YOU

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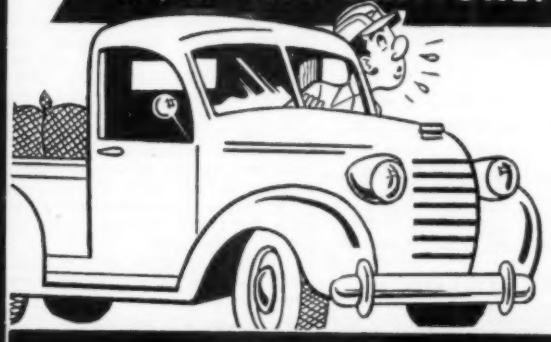

Educational Service

NATIONAL COTTONSEED PRODUCTS ASSN., INC.
618 Wilson Bldg. Dallas 1, Texas

Importers and Wholesalers of . . Canadian Screenings

SUPERIOR FEED COMPANY

Board of Trade
Phone: 2-0777

Duluth 2, Minn.
Teletype DU 16

Members: American Feed Manufacturers Association
The Grain and Feed Dealers National Association

Atlanta: Demand good, trend strong; supply limited; bran $47, f.o.b. Louisiana mills.

Memphis: Demand good; trend near ceiling; supply very limited; bran $50, sacked, f.o.b. Arkansas points.

Ft. Worth: Demand unsatisfied; supply very scarce; nominal, rice bran $50@52, prompt; hulls $6@7, f.o.b. south Texas rice mills, immediate or prompt shipment.

RIBOFLAVIN

New York: Demand good; trend steady; supply sufficient; 12½¢ gm. equivalent, freight allowed.

Terre Haute: Demand and supply good; 12½¢ gm. of contained riboflavin, with freight allowed, for 8,000 and 16,000 potency dried fermentation solubles.

SESAME MEAL

Los Angeles: Demand good; trend firm; supply limited; $105@106, delivered, sacked.

SORGHUMS

Ft. Worth: Demand good; supply sufficient; carlots, bulk, No. 2 yellow $2.92@2.98, delivered TCP.

Kansas City: Record arrivals of new crop milo were reported in Kansas City this week; market is steady to slightly lower as a result; 522 cars received over the Armistice holiday; No. 2 milo $2.67½@2.71½ bu., bulk, carlots, Kansas City.

SCREENINGS

Minneapolis: Importers of Canadian screenings are said to be sold up January, and prices made another $2 advance this week. All-rail shipment from Canada has started. Quotations: dust $16@20, lights $20@25, mediums $25@40, heavies $40@50; flax screenings $46; Canadian $36, bulk, Duluth; Canadian ground $47.50, sacked, Minneapolis.

Buffalo: Demand very good; trend slightly higher; supply getting tight; Canadian ground $45@47, Boston; Canadian unground $38@40, Buffalo, December delivery, ex-lake.

Chicago: Demand good; supply fair; ground grain screenings $48.50@52.50 ton, sacked; Canadian $38.50@40.50 ton, bulk.

New Orleans: Demand poor; trend steady; supply ample; $40@43 on heavies.

SOYBEAN OIL MEAL

Philadelphia: Demand good; supply very scarce; ceiling price $74, bulk, Decatur.

San Francisco: Demand good; supply fair, $107.

Buffalo: Demand strong; trend steady; 41% $74, 44% $74, both nominal, Decatur.

Omaha: Demand very good; supply very limited; $83.50.

Decatur: Demand excellent; supply very scarce; 41% protein $74 ton; 44% $74 ton (ceiling prices).

Minneapolis: Offers for November or December are extremely scarce, with additional demand resulting from the non-availability of linseed oil meal. Nearby and January shipment is quoted at the ceiling of $74, bulk, Decatur, with January-March shipment offered at $73.

Boston: Demand good; supply light; $74@75.50, f.o.b. Decatur.

Chicago: Ceiling levels were retained this week by both 41% and 44% soybean oil meal, with nearby shipments virtually impossible to obtain. Some brokers said many consumers would be willing to book meal through the rest of the crop year if they could get immediate supplies by doing so. Ceiling prices of $80 were quoted for January-March shipment. Brokers blamed the tight supply situation partly on a scarcity of other ingredients, for which soybean oil meal has been substituted.

Louisville: Demand and supply good; trend steady; $86.50 ton.

Portland: Demand good; trend higher; supply limited; January $73.50, bulk, Decatur; January-September $72.

Seattle: Demand slow; supply tight for nearby, good for January forward; $107 ton, November, carlots, 44% protein; December $103.50.

Atlanta: Demand and trend strong; supply tight; 41% $87, f.o.b. Mississippi mills.

Cincinnati: Demand heavy; trend strong; none available, $74, bulk, Decatur.

Memphis: Demand good; trend stronger; supply scarce; prime 41% protein, old process $89.20, sacked, f.o.b. Memphis.

Los Angeles: Demand strong; trend firm; supply spot scarce; ceiling $74, bulk, Decatur, equivalent $106.50, delivered, sacked.

Ft. Worth: Demand slow; supply limited; 41 or 44%, Midwest origin, November-December $96.50@97, delivered Ft. Worth.

Indianapolis: Demand good; trend higher; supply sufficient; 44% $93 ton.

Wichita: Demand fair; supply insufficient; 41% $93, f.o.b. Wichita.

Kansas City: Considerable tightness has developed in the past week with ceiling prices now asked for shipment into January; offerings light, demand good; ceiling basis continues at $74, bulk, Decatur.

Milwaukee: Demand heavy; supply very scarce; 41% $89.

New Orleans: Demand good; trend steady; supply light; 44% $97.85@98.50.

Ogden: Supply average; $97@102.

SUNFLOWER SEED

St. Louis: Demand fair; supply ample; small black (hybrid variety) $11 cwt., poultry grade $12.50 cwt.; medium black (parrot grade) $17.50 cwt., all f.o.b. St. Louis; carlots available only in small black hybrid variety.

TANKAGE

St. Paul: Market easier; demand fair; supply plentiful; 60% digester $115@122.50.

Buffalo: Demand slow; trend steady; supply adequate; 60% dehydrated $125, nominal.

Chicago: Demand slower; supply adequate; 60% protein $118@120 ton, sacked.

Louisville: Demand fair; supply ample; trend stronger; 60% $118@122 ton.

Omaha: Demand good; supply limited; $126.50 ton.

Ft. Worth: Demand good; supply inadequate; 60% digester $117@122 ton, f.o.b. Ft. Worth.

Wichita: Demand good; supply inadequate; 60% $124, f.o.b. plant.

Milwaukee: Demand good; supply light; 60% $120.

St. Louis: Demand and supply good; 60% $115, bulk; $120@121, sacked.

WHEAT GERM

Chicago: Market steady; demand good; supply limited; $102.

Cattle Feeding

(Continued from page 1)

and Missouri, but below last year for Kansas.

October shipments into the eight Corn Belt states continued at a rate considerably above the level in October, 1950, and were a record high for the month. Direct shipments into the eight states for October were also the highest on record.

The number of cattle on wheat pastures in Kansas is down substantially from last year because of the small acreage of volunteer wheat and the slow growth of fall sown wheat. Wheat pastures in northwest Texas improved considerably with late October rains.

Feed Supplies

Feed supplies are generally ample except in scattered areas. There are fairly large quantities of low quality corn in Wisconsin, Minnesota, South Dakota, Iowa, Nebraska and northern Missouri which will require more or less rapid consumption by livestock. In the eastern Corn Belt corn production is average or above and the crop matured satisfactorily. Stocks of old corn on farms Oct. 1 were down from a year ago in most Corn Belt states. Sugar beet pulp and by-products are not as plentiful this season in the western states as a year ago. However, hay supplies are ample in most areas except the Southwest.

The price of feeder and stocker cattle continues at high levels. The average price at the five larger feeder markets for the week ending Nov. 1 was $33.07 cwt., or $4.74 higher than for the same week last year.

Cattle feeders have continued to buy many lightweight cattle for long-term feeding. The records from five markets show that during July to October, the number of feeder calves shipped was up 7% from last year and made up more than 22% of the total stocker and feeder cattle and calves going to the country. The number of heavy feeder steers weighing over 900 lb. shipped from these five markets during July-October was down 5% from a year ago.

November Crop Production Estimates

The Crop Reporting Board of the Bureau of Agricultural Economics makes the following report for the U.S. from data furnished by crop correspondents, field statisticians and cooperating state agencies:

Crop—	Yield per acre— Average 1940-49	1950	Preliminary 1951*	Total production (in thousands)— Average 1940-49	1950	Preliminary 1951*
Corn, all, bu.	33.9	37.6	36.5	2,980,777	3,131,009	3,088,092
Wheat, all, bu.	17.1	16.6	15.9	1,071,310	1,026,755	993,598
Winter, bu.	17.7	17.1	15.9	791,764	750,666	650,738
All spring, bu.	15.7	15.4	15.8	279,546	276,089	342,860
Durum, bu.	14.8	13.2	13.9	37,386	36,064	36,369
Oth. sp., bu.	15.9	15.8	16.1	242,160	240,025	306,491
Oats, bu.	33.2	34.9	36.3	1,311,651	1,465,134	1,372,248
Barley, bu.	24.4	26.9	26.0	306,523	301,009	254,409
Rye, bu.	13.3	12.6	13.8	30,173	22,977	25,138
Buckwheat, bu.	17.4	17.9	17.0	6,976	6,749	3,834
Flaxseed, bu.	9.4	10.1	8.7	37,186	39,263	32,284
Sorghum grain, bu.	17.5	22.9	18.9	118,773	227,456	165,805
Cotton, bales	†265.9	†269.2	†265.2	12,030	10,012	15,771
Hay, all, tons	1.36	1.41	1.49	101,644	106,819	113,859
Hay, wild, tons	.89	.83	.91	12,351	12,509	13,496
Hay, alfalfa, tons	2.22	2.24	2.33	33,946	41,029	45,975
Hay, clover and timothy‡, tons	1.37	1.39	1.49	30,098	29,636	31,864
Hay, lespedeza, tons	1.07	1.16	1.06	6,839	7,598	7,002
Soybeans for beans, bu.	19.0	21.6	21.2	178,567	287,010	277,590
Peanuts§, lb.	704	837	736	2,016,962	2,019,295	1,637,985

*Estimates for wheat, oats, barley, rye, flaxseed, hay and dry field peas are not based on current indications, but are carried forward from previous reports. †Pounds. ‡Excludes sweetclover and lespedeza hay. §Picked and threshed.

TRANSPORT EXECUTIVES ADDRESS BUFFALO CLUB

BUFFALO — The Transportation Club of Buffalo, of which many members are connected with the flour or feed business, held its annual meeting at the Hotel Statler here recently. Several prominent executives in the transportation business spoke on current problems of both the railroads and trucking companies.

Clarence R. Zarfoss, Baltimore, president of the Western Maryland, was slated for the principal address but was unable to finish his prepared speech when he became ill shortly after he had begun his address.

R. L. BUNDY JOINS STAFF OF D.C.A., INC.

CHICAGO—D.C.A., Inc., Chicago, announces the addition of Robert L. Bundy to the company's staff. Mr. Bundy will specialize in trading in protein feed ingredients.

Mr. Bundy has had considerable experience in the feed ingredient brokerage business and related fields. For the last three and one half years he has been with Wilbur-Ellis Co., Chicago, where he also traded mainly in protein feed ingredients. Prior to that time, he was a buyer for the Curtiss Candy Co. Farms, Chicago, for two and one half years.

DEAN WEBSTER, HEAD OF GRAIN FIRM, DIES

ANDOVER, MASS.—Dean K. Webster, 81, president of the H. K. Webster Grain Co. here for 32 years, died recently in Lawrence, Mass. He entered the grain business in 1891, and served as the first president of the Boston Grain & Flour Club.

RESIGNS FROM BRUCO

NEW YORK—Louis J. Kroutil has resigned as vice president of the Bruco Peat Moss Corp. here. He plans to make his headquarters at his poultry farm in New London, N.H., from where he will operate as a manufacturer's representative in the New England states.

SEMINAR TO MEET

ST. PAUL—The Twin City Nutrition Seminar will discuss antibiotics at its meeting in Peters Hall on the University of Minnesota farm campus Nov. 20. Prof. I. E. Liener of the university biochemistry department will lead the discussion. The meeting will start at 7:30 p.m.

Markets

(Continued from page 2)

to fill before there is a possibility of new supplies coming on the market.

Normally at this time of year Florida dried citrus pulp and meal fill the gap for concentrated carbohydrate roughage, but due to canner price resistance, Florida pulp processors are running on a very small scale. This, together with the fact that beet pulp is available only from resellers, increases the tight dairy feed situation.

Usual buying practices by formula feed manufacturers wherein price has been the determining factor hav given way to availability of supplies With most prices at the near ceilin levels, the question now is, can yo get ingredients, rather than can yo afford the cost.

Northeast

Northeastern area production o formula feeds, while running at fairly high rate the first part of th week, slackened off slightly towar the end with the advent of an im provement in weather condition Temperatures the past week hav been more nearly normal as com pared with the early blast of snow and cold a week to 10 days ago. Ther are practically no traces left of th heavy snow that had fallen and a a result, beef cattle and dairy herd were again out on pasture.

Mills reported an extremely heav demand during the fore part of th week for formula feeds, but severa say they noticed a slight shrinkage i this demand later in the week.

Turkey raisers who have been goo takers of the feeds are beginning t taper off their feed requirement Poultry raisers continue to be th best buyers of feed while the dair industry is a strong contender fo second place.

A sharp drop in millfeeds was no ticed during the week, due to th stepped-up production in the area There was also noted a severe slack ening off of Canadian millfeed offer ings over the past week. No wester millfeeds are being offered here a they are out of line price-wise at th moment.

Oilseed meals continue in tigh supply, with nearby practically un obtainable in the open market.

Pacific Northwest

Formula feed business continue good throughout the Pacific North west, with some mills running 1 hours a day. Some apprehension wa felt among manufacturers of dair feed who view with alarm the in creasing tendency to sell animals ou of producing dairy herds.

With turkeys going to market, it i certain that this class of busines will be cut heavily within the nex few weeks. Broiler business contin ued good, however, and the overa volume was reported as quite satis factory.

Increasing ingredient costs ar making it extremely difficult for buy ers to gauge their requirements i advance, and most of them ar pursuing pretty much of a hand-to mouth policy. Feed prices hav been steadily advancing and ar up $5@6 ton within the past 30 days Barley and corn present difficult sup ply problems even at current prices because the only available barley i of Montana origin and much of i has been caught by the weather i fields and on ranches. The quality o corn seems to be deteriorating, an No. 3 grade is mentioned more an more in the trade.

In spite of these difficulties th feed business quite generally seem to be good.

Ohio Valley

Following an upswing in deman last week, the formula feed busines in the Ohio Valley area again ease off and this week was described a "poor to fair." Broiler feed mashe were in some demand, but the balanc of the list was stagnant.

Because of current high price many farmers are said to be holdin back on feeding, letting their poultr and hogs forage for the balance o their food on such grass as survive the recent snows and sub-freezin temperatures. Apparently really se vere winter weather will be require to change this attitude.

Prices in this area again move upward from 25¢ for mash feeds t $1 ton for dairy feeds, but mill op erations generally slumped to a lo for the year of only about 50% o

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Cameron, John F., & Co., Ltd.
Cargill, Inc.
Chubb & Son
Commander-Larabee Milling Co.
De Boer, W., & Co.
Early & Daniel Co.
Eckhart, B. A., Mfg. Co.
Einfuhrhandel Mannheim
Farmers Union Grain Terminal Assn.
Florelius & Ulsteen, A/S
Forrester Grain Co.
Fulton Bag & Cotton Mills
Gray, A. R., Ltd.
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Jordan, Omar
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Montana Flour Mills Co.
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Norris Grain Co.
Novadel-Agene Corp.
Nulomoline Co.
Osborne McMillan Elevator Co.
Osieck & Co., v/h
Pillman & Phillips
Pioneer Bag Co.
Rice, Daniel P., & Co.
Richmond Mfg. Co.
Riegel Paper Corp.
Ruoff & Co., A.
Russell, D. T., & Baird, Ltd.
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Simonds-Shields-Theis Grain Co.
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Smyth, Ross T., & Co., Ltd.
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Tex-O-Kan Flour Mills Co., Kansas City Grain Division
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Van Dusen Harrington Co.
Victor Chemical Works
Vreeswijk, Gebroeders
Wallace & Tiernan Co., Inc.
Weevil-Cide Co.
Witsenburg, M., Jr.
Witter, Dean, & Co.

Significant to every advertiser desiring to reach the Feed, Grain, Flour and Baking industries will be the 1952 ALMANACK edition of The Northwestern Miller.

This invaluable reference book will be received by all readers of The Northwestern Miller as a Section Two of the April 22, 1952, issue. The new Almanack will continue and expand the valuable statistical and informational service regarding crops, production, regulations, etc., for which this annual edition serves as an ever-handy "reference library."

Your advertising message will be seen time and again throughout the year in the Almanack as this indispensable volume will be retained and referred to repeatedly by readers who will be most receptive to your advertising.

Send in your space reservation today and assure yourself ample time in which to prepare your advertising copy, which can be accepted not later than March 1. Use the handy space reservation form below. Mail it today.

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Elevator Capacity

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capacities. A few manufacturers, however, reported somewhat better operations, but the overall situation definitely was on the gloomy side.

Central States

Formula feed business did not live up to expectations in the central states area this week. Mixers had expected a surge of buying when the snows cleared over the Midwest, permitting consumers to come to town to buy feeds. However, the break in the weather brought no large buying movement.

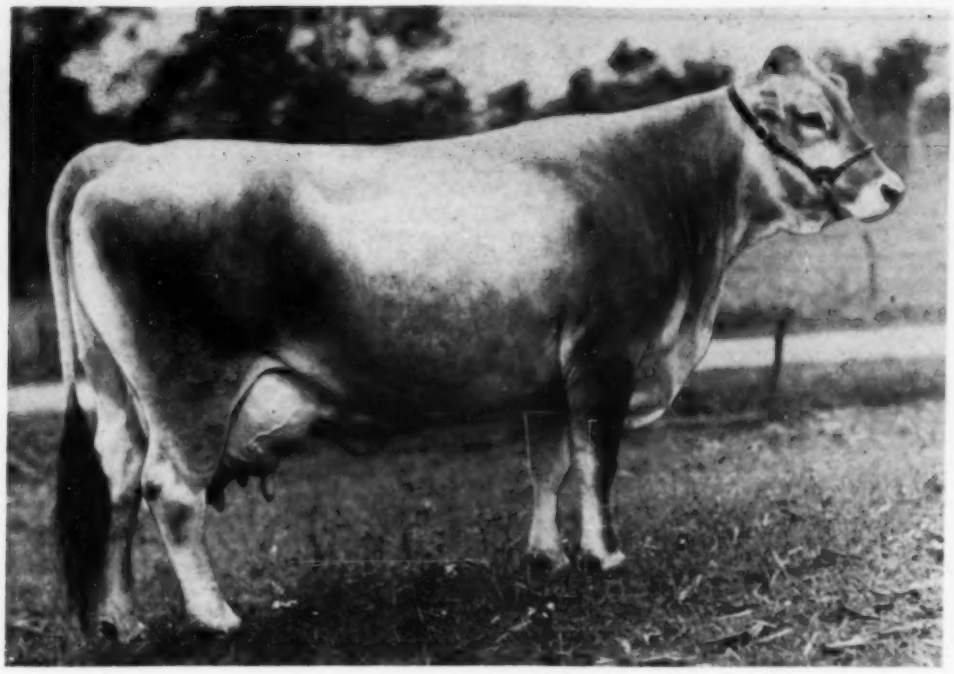
Rising prices for feeds, coming at the transition period between fall and winter practices, left buyers on the hesitant side. This state of affairs was not shared universally. Business for some mills showed a pickup, but for others it was extremely spotty.

Manufacturers said around 60% of the turkeys for Thanksgiving already have gone to market, leaving a big gap to be filled. Also, broiler prices are so low, ranging from 20@26¢, that feeding is unprofitable in many cases.

Prices advanced $1@1.50 ton this week, and prospective buyers put up strong resistance. Hand-to-mouth buying was the rule. As a result, manufacturers' backlogs dwindled, and some mills operated on a day-to-day basis. Some backlogs, however, ranged to four days.

Dairy feeding has not come to life as yet, although it should expand in the next few weeks. However, mixers point out, dairy feeds never do constitute a big bulk item as compared to other feeds. The Office of Price Stabilization granted milk producers a ½¢ qt. boost in prices this week. Cattle feed use is broadening.

A break in the market could produce heavy buying, manufacturers say. Or, if that does not occur, a decision on the part of buyers that high prices are here to stay could bring on a buying wave. In the meantime, some manufacturers are waiting for orders to be able to maintain a regular five day a week schedule.



Pillsbury's BEST XXXX FEEDS

Daisy of Clover Lane, owned by Mr. and Mrs. Samuel E. Behm, Winchester, Ohio, all-breed milk production champion for the state of Ohio, on twice-a-day milking. (Record completed January 16, 1951.)

Ohio Champion is Pillsbury-fed

—*SETS ALL-TIME MILK RECORD*

Produces 24,006 lbs. of milk, 1021.6 lbs. of butterfat on twice-a-day milking

A new all-time DHIA record of production for all breeds on twice-a-day milking, for the state of Ohio, was set by Daisy of Clover Lane, when she finished her 365-day test on the farm of her owners, Mr. and Mrs. Samuel E. Behm, Winchester, Ohio, last January.

This splendid Brown Swiss is a member of Behms' 27-cow herd, which has had Pillsbury Dairy Concentrates as a part of the ration since 1942.

The herd is in charge of Mrs. Behm, graduate veterinarian and well known as a herdsman and in the show ring. Regarding Pillsbury Dairy Feeds, Mrs. Behm says: "The consistently good results I get from my cows speak for themselves."

HOW WAS SHE FED?

During her test, Daisy of Clover Lane received good-quality roughage and Pillsbury's Best 32% Dairy Concentrate, with corn, oats and bran.

Daisy is now about halfway through another test and is receiving the same ration.

BREEDING

Daisy of Clover Lane was purchased by Mr. and Mrs. Behm as a 3-year-old. She is a daughter of Jake of Clover Lane; her dam, Dick's Louise.

Pillsbury's Best DAIRY FEEDS

Championship Results for Dealers, too!

Feeds that give championship results on the farm are the No. 1 consideration at Pillsbury. Next in importance is Pillsbury's powerful, tonnage-building New Business Plan for dealers that pays off so profitably, plus a thorough factual advertising campaign that is making such a stir in the feed business. Now is the time to join "The Growth Company" in the feed industry and profit from its advantages. Write or wire us, or see your Pillsbury Territory Manager.

Pillsbury Mills, Inc.
Clinton, Ia.; Louisville, Ky.; Los Angeles, Calif.